10/598,789 Yong Chu 06/30/2008

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 NEWS 31  JUN 30  EMBASE, EMBAL, and LEMBASE updated with additional
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                                                         ENTRY    SESSION
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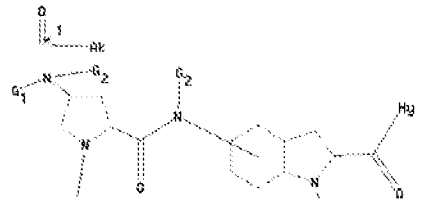

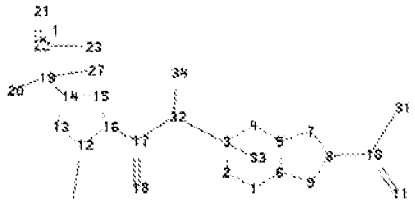

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10 11 17 18 19 20 21 22 23 27 28 30 31 32 34
ring nodes :
1 2 3 4 5 6 7 8 9 12 13 14 15 16
chain bonds :
8-10 9-30 10-11 10-31 12-28 14-19 16-17 17-18 17-32 19-20 19-27 21-22
22-23 32-34
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 12-13 12-16 13-14 14-15 15-16

exact/norm bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 9-30 10-11 10-31 12-13 12-16
12-28 13-14 14-15 14-19 15-16 17-18 17-32 19-20 19-27 21-22 22-23 32-34
exact bonds :
8-10 16-17

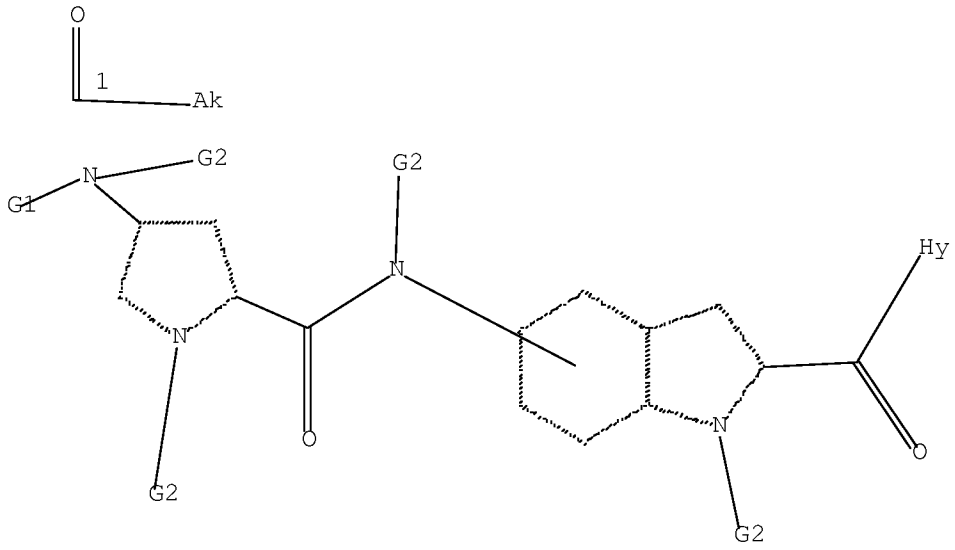
G1:H,Ak,[*1]

G2:H,Ak

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:CLASS 18:CLASS 19:CLASS
20:CLASS 21:CLASS
22:CLASS 23:CLASS 27:CLASS 28:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS
34:CLASS

L1 STRUCTURE UPLOADED

=> d
L1 HAS NO ANSWERS
L1 STR



G1 H,Ak,[@1]
G2 H,Ak

Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SCREEN SEARCH COMPLETED -      973 TO ITERATE

100.0% PROCESSED      973 ITERATIONS                                1 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:        17589 TO    21331
PROJECTED ANSWERS:               1 TO       80

L2            1 SEA SSS SAM L1

=> d scan

L2   1 ANSWERS   REGISTRY  COPYRIGHT 2008 ACS on STN
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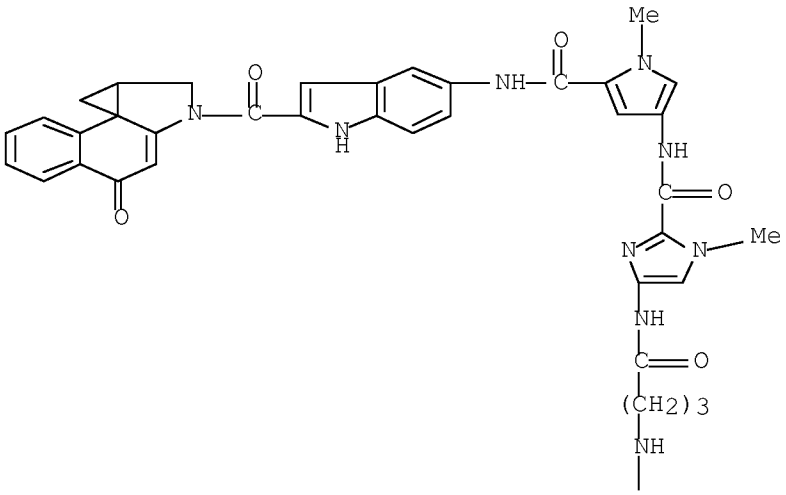

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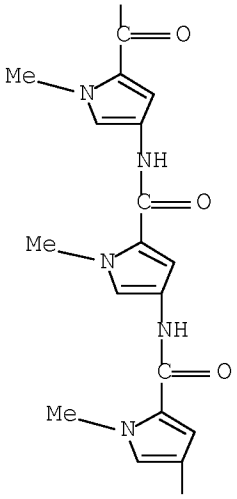

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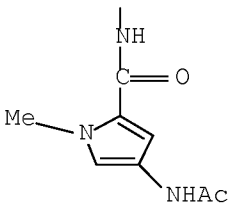

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FULL SCREEN SEARCH COMPLETED - 18463 TO ITERATE

100.0% PROCESSED 18463 ITERATIONS 31 ANSWERS
SEARCH TIME: 00.00.04

L3 31 SEA SSS FUL L1

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COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 179.28 179.49

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FILE LAST UPDATED: 29 Jun 2008 (20080629/ED)

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=> s l3
L4 15 L3

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:339576 CAPLUS Full-text
DOCUMENT NUMBER: 148:555820
TITLE: Requirement of .beta.-alanine components in

sequence-specific DNA alkylation by pyrrole-imidazole conjugates with seven-base pair recognition

AUTHOR(S): Bando, Toshikazu; Minoshima, Masafumi; Kashiwazaki, Gengo; Shinohara, Ken-ichi; Sasaki, Shunta; Fujimoto, Jun; Ohtsuki, Akimichi; Murakami, Masataka; Nakazono, Satomi; Sugiyama, Hiroshi

CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Sakyo, Kyoto, 606-8501, Japan

SOURCE: Bioorganic & Medicinal Chemistry (2008), 16(5), 2286-2291
CODEN: BMECEP; ISSN: 0968-0896

PUBLISHER: Elsevier Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB To investigate the effect of incorporation of .beta.-alanine in alkylating N-methylpyrrole (Py)-N-methylimidazole (Im) polyamide, seco-CBI conjugates 2-8 were synthesized by an Fmoc solid-phase method and subsequent coupling with an alkylating moiety. DNA-alkylating activities of conjugates 2-8 were evaluated by high-resoln. denaturing gel electrophoresis with 202-base pair (bp) DNA fragments. Alkylation by conjugates 2 and 3, which have antiparallel pairings of .beta.-alanine (.beta.) opposite .beta. (.beta./.beta.) and Py/.beta., occurred mainly at the adenine (A) of the matching sequences, 5'-AGCTCC-3' (site 1) and 5'-AGCACC-3' (site 3). However, conjugate 4, with .beta./Py, did not show any DNA-alkylating activities. Similarly, conjugate 5, which possessed a Py/Py pair, weakly alkylated the matching sites at micromolar concns. Conjugates 6 and 7, which possessed .beta./.beta. and Py/.beta. pairs, resp., alkylated at the A of the matching sequences, 5'-ACTACC-3' (site 2) and 5'-ACAACC-3' (site 4). In contrast, conjugated 8, with a Py/Py pair, showed lower activity and less alkylated DNA at sites 2 and 4 with mismatched alkylation at site 1 at a higher concn. than that of 6 and 7. These results demonstrate that incorporation of .beta.-alanine is required for the sequence-specific alkylation by seco-CBI Py-Im conjugates with a seven-base pair sequence.

IT 865113-72-0P 1026780-48-2P 1026780-50-6P
1026780-52-8P 1026780-53-9P 1026780-54-0P
RL: BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(requirement of .beta.-alanine components in sequence-specific DNA alkylation by pyrrole-imidazole conjugates with seven-base pair recognition)

RN 865113-72-0 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[5-[[[4-[[2-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

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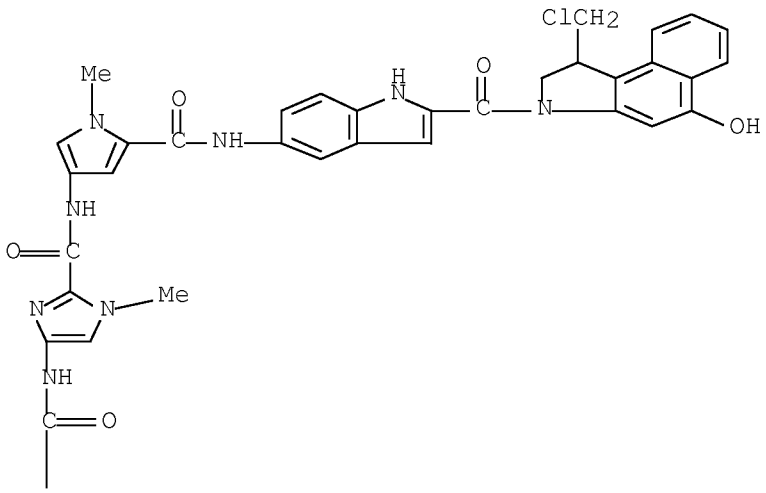

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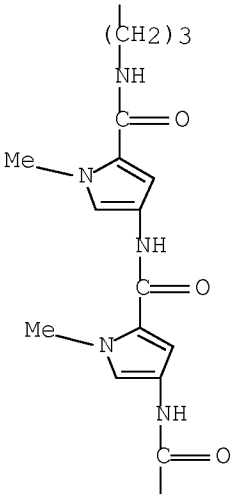

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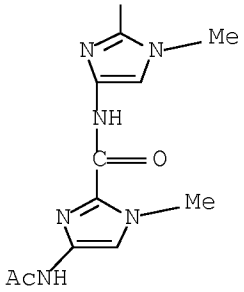

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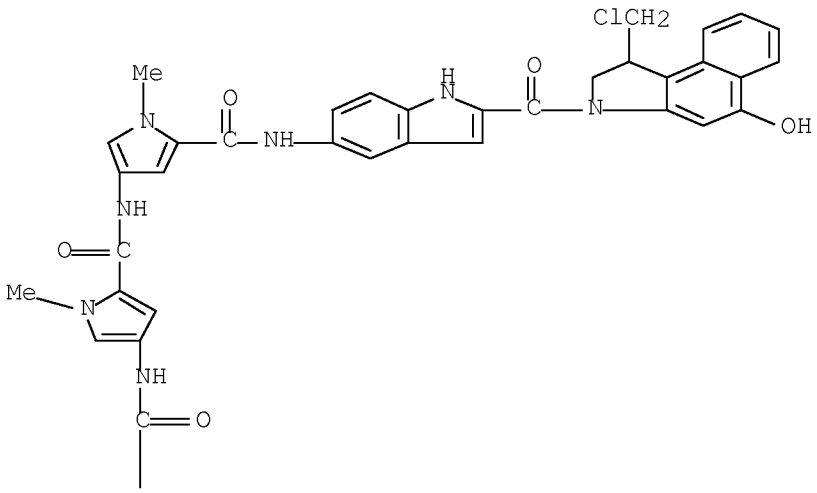

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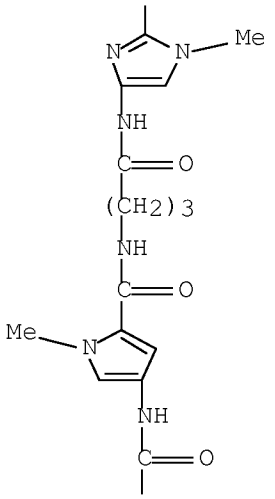

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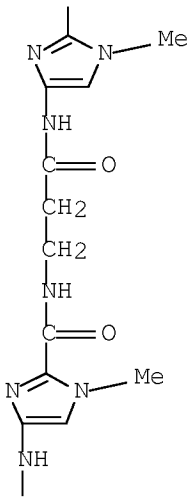

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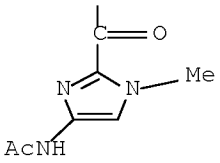

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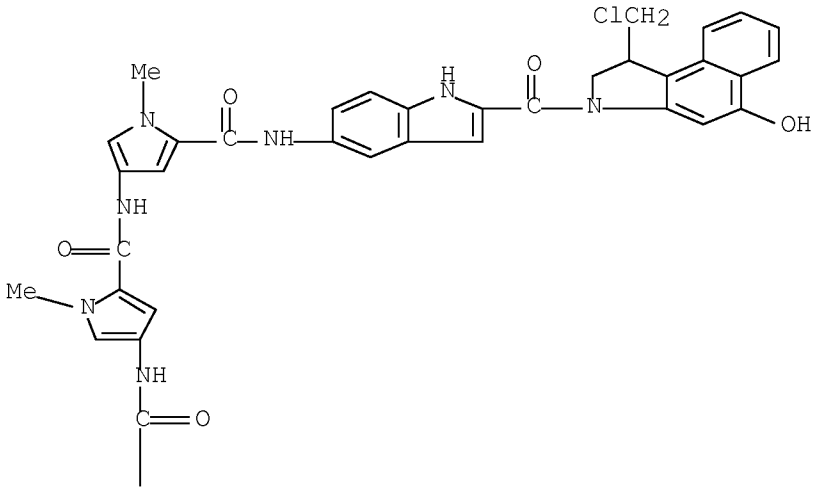

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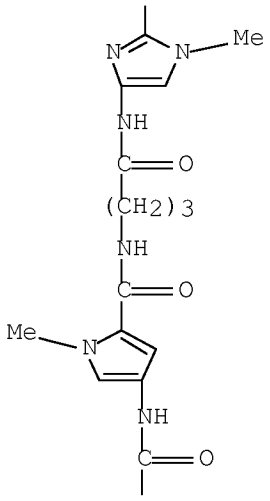

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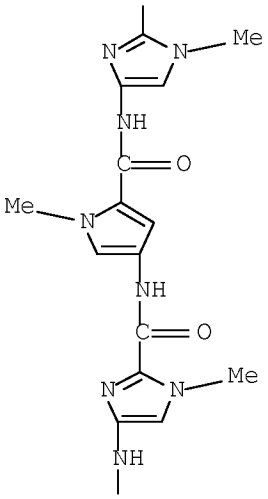

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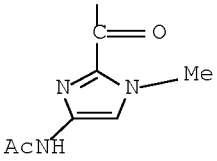

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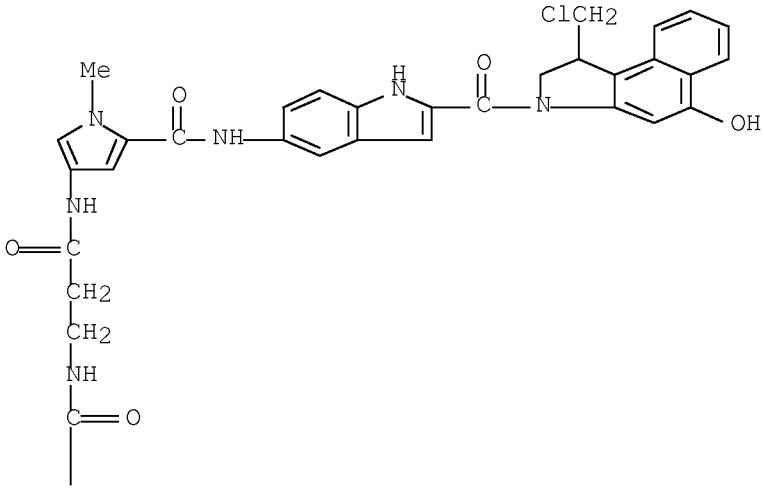

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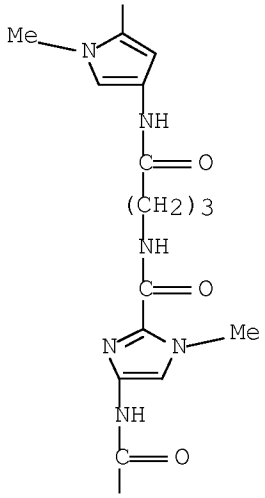

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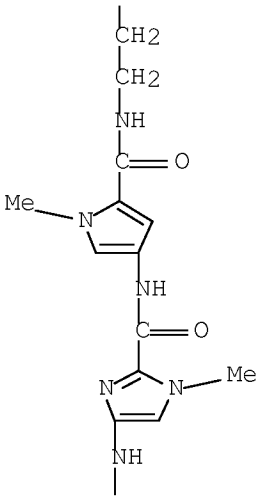

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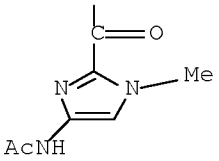

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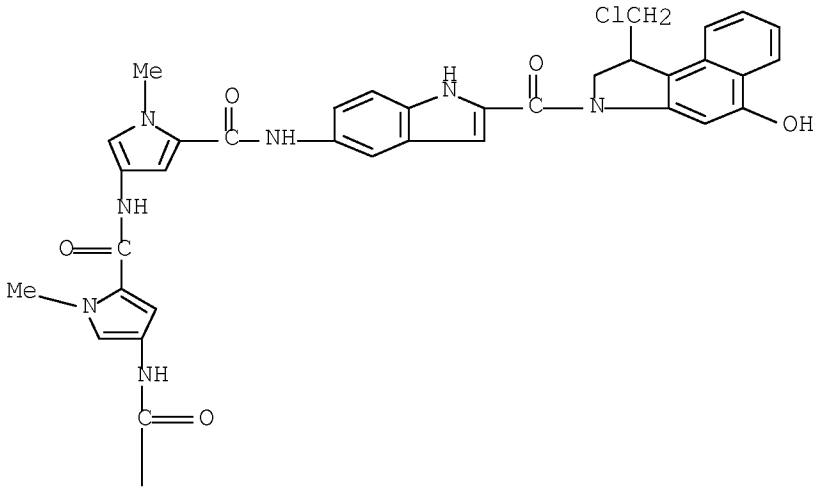

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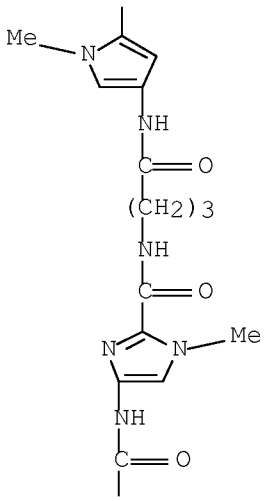

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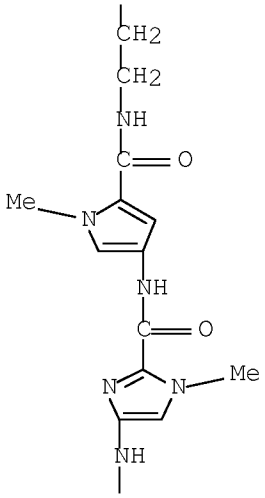

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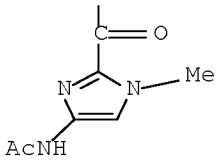

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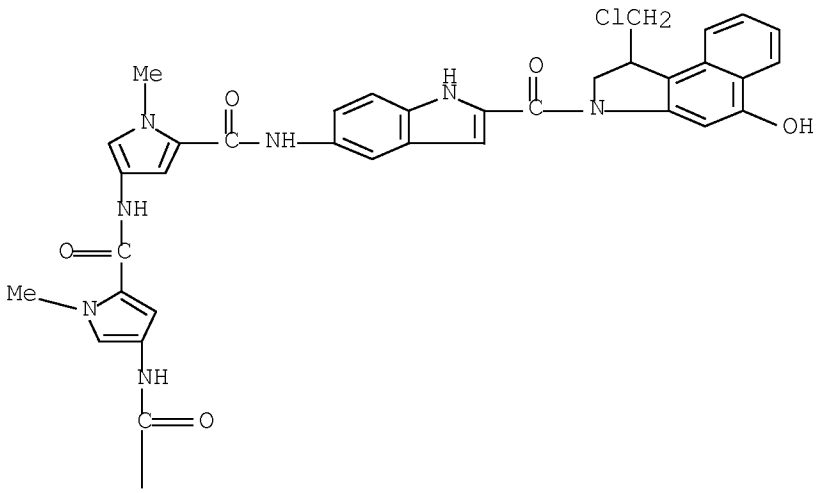

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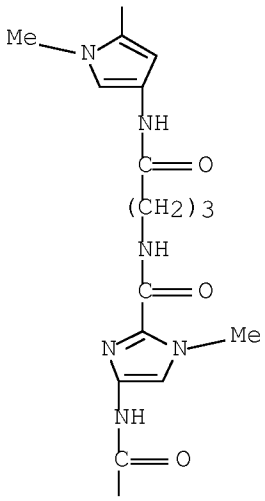

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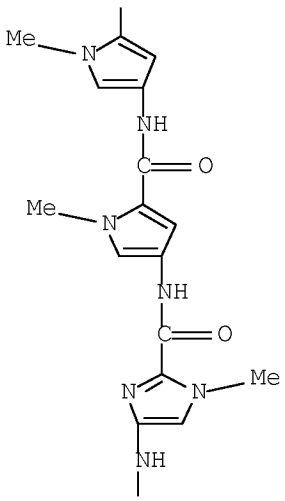

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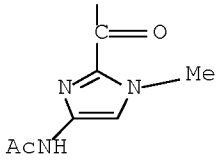


REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:662474 CAPLUS Full-text
DOCUMENT NUMBER: 147:323219
TITLE: Molecular design of DNA alkylating pyrrole-imidazole polyamides with longer recognition sequence
AUTHOR(S): Minoshima, Masafumi; Sasaki, Shunta; Shinohara, Ken-ichi; Shimizu, Tatsuhiko; Bando, Toshikazu; Sugiyama, Hiroshi
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Kitashirakawa-oiwakecho, Sakyo, Kyoto, 606-8502, Japan
SOURCE: Nucleic Acids Symposium Series (2006), (50), 165-166
CODEN: NASSCJ
URL: http://nass.oxfordjournals.org/content/vol50/issue1/index.dtl
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English
AB The sequence-specificity, and DNA alkylating activity of the conjugate 1, which consists of N-methylpyrrole (Py)-N-methylimidazole (Im) polyamides, 1-(chloromethyl)-5-hydroxy-1,2-dihydro-3H-benz[e]indole (seco-CBI) with indole

linker, were investigated in the absence or presence of partner Py-Im polyamide 2. High-resoln. denaturing PAGE showed that the specificity of DNA alkylation by 1 modulated in the presence of partner 2. We found that sequence-specific DNA alkylation by 1 and 2 with 10 base pair (bp) match recognition sequence through heterodimer formation. This result indicates one possibility of DNA alkylation with longer recognition sequence by different two mols.

IT 947726-88-7

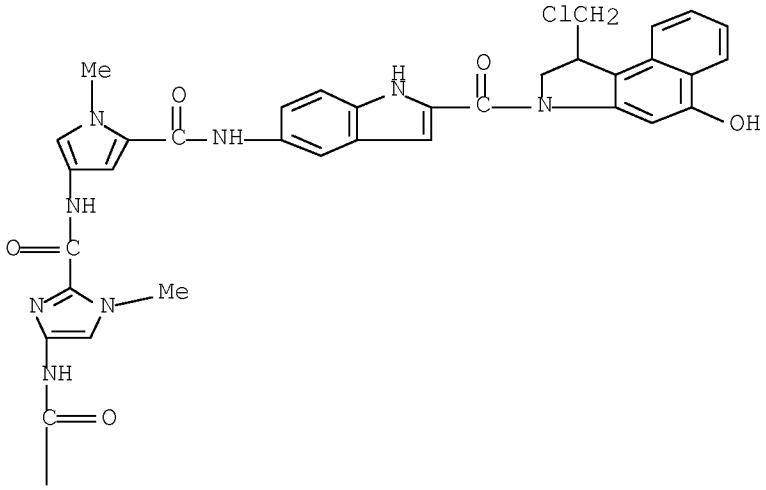
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(DNA alkylating agent; sequence-specific alkylation of DNA with pyrrole-imidazole polyamide seco-CBI conjugate in presence of partner polyamide)

RN 947726-88-7 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[3-[[2-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-3-oxopropyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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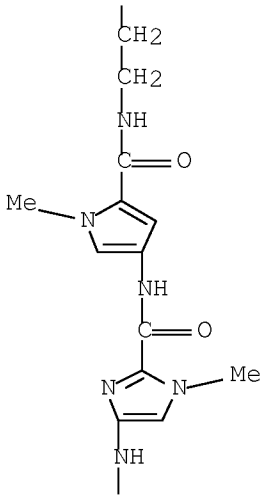

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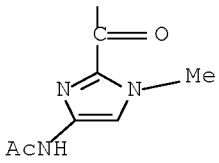


REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:662469 CAPLUS Full-text
DOCUMENT NUMBER: 148:182769
TITLE: Synthesis and evaluation of sequence-specific DNA alkylating agents: effect of alkylation subunits
AUTHOR(S): Shimizu, Tatsuhiko; Sasaki, Shunta; Minoshima, Masafumi; Shinohara, Ken-ichi; Bando, Toshikazu; Sugiyama, Hiroshi
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Kitashirakawa Oiwakecho, Sakyo-ku, Kyoto, 606-8502, Japan
SOURCE: Nucleic Acids Symposium Series (2006), (50), 155-156
CODEN: NASSCJ
URL: http://nass.oxfordjournals.org/content/vol50/issue1/index.dtl
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English
AB We have demonstrated that hairpin pyrrole (Py)-imidazole (Im) polyamide-CBI conjugates selectively alkylate predetd. sequences. In this study, we investigated the effect of alkylation subunits, for example conjugates 1-4

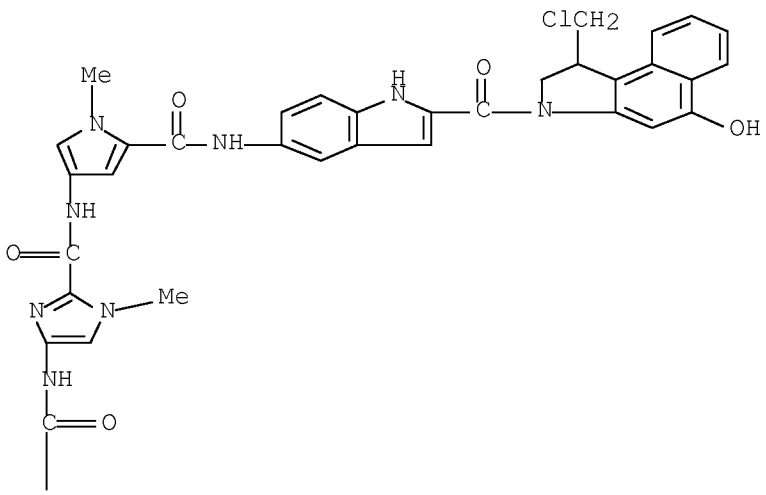
with three types of DNA alkylating units, and Py-Im polyamides with indole linker. Conjugate 3 and 4 selectively alkylated the predetd. sequences as described previously, while conjugates 1 and 2 alkylate at mismatched sites.

IT 865113-72-0 1004312-34-8 1004312-35-9
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sequence-specific DNA alkylating agents as antitumor drugs with improved selectivity)

RN 865113-72-0 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[5-[[[4-[[2-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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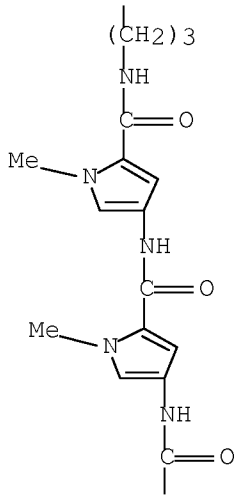

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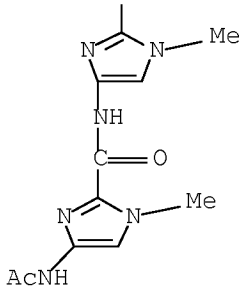
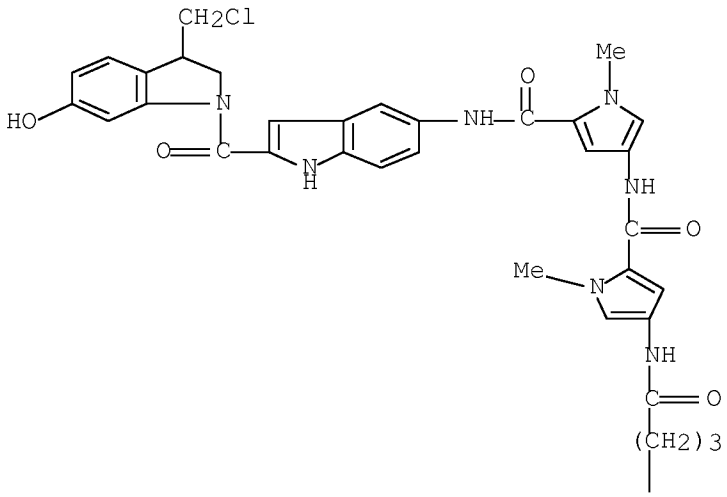


RN 1004312-34-8 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-(acetylamino)-N-[2-[[[5-[[[5-[[[4-[[5-[[[5-[[[2-[[3-(chloromethyl)-2,3-dihydro-6-hydroxy-1H-indol-1-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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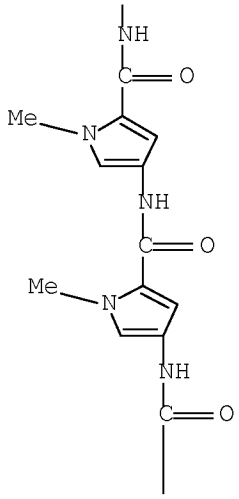

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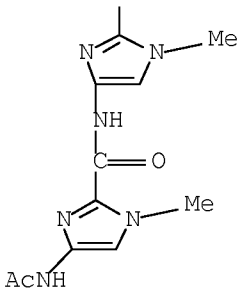
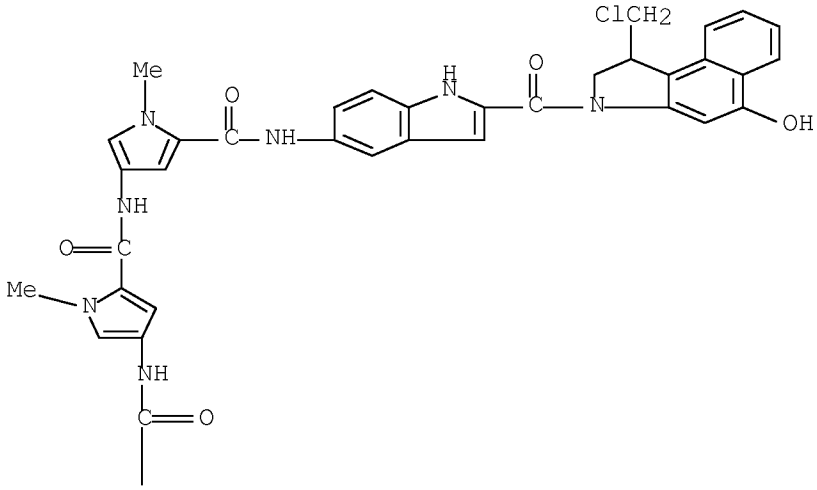


RN 1004312-35-9 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-(acetylamino)-N-[2-[[[5-[[[5-[[[4-[[5-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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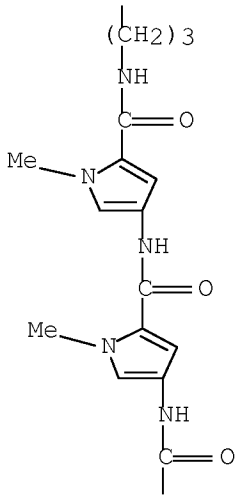

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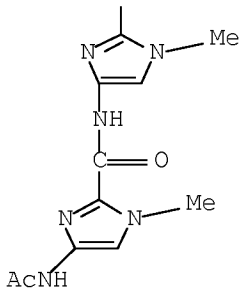


REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:662447 CAPLUS Full-text

DOCUMENT NUMBER: 147:316628

TITLE: The biological impact of sequence-specific DNA alkylation by pyrroleimidazole polyamides

AUTHOR(S): Sasaki, Shunta; Minoshima, Masafumi; Shimizu, Tatsuhiko; Fujimoto, Jun; Shinohara, Ken-ichi; Bando, Toshikazu; Sugiyama, Hiroshi

CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Kitashirakawa Oiwake, Sakyo-ku, Kyoto, 606-8502, Japan

SOURCE: Nucleic Acids Symposium Series (2006), (50), 111-112
CODEN: NASSCJ
URL: http://nass.oxfordjournals.org/content/vol50/issue1/index.dtl

PUBLISHER: Oxford University Press

DOCUMENT TYPE: Journal; (online computer file)

LANGUAGE: English

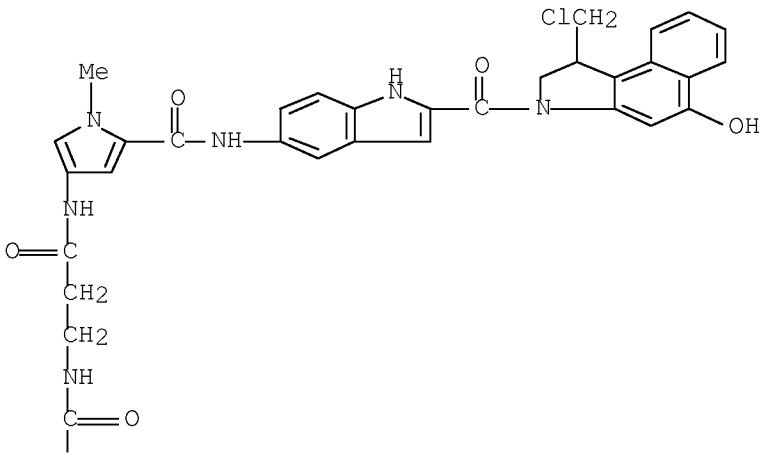
AB We have developed a series of novel DNA alkylating polyamides possessing indole linkers. Investigations using high-resoln. gel electrophoresis revealed that the indole linked Py-Im polyamide alkylated at A of a targeted nine base pair matching sequence. Evaluation in human cancer cell lines revealed that the indole linked Py-Im polyamides have strong cytotoxicities. Furthermore, we showed that alkylation of the template strand of the coding region by these polyamides causes effective gene silencing.

IT 893419-09-5P 947597-79-7P 947597-85-5P
947597-99-1P
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(biol. impact of sequence-specific DNA alkylation by pyrroleimidazole polyamides)

RN 893419-09-5 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[3-[[5-[[[5-[[[2-[[[4-[[5-[[[5-[[[5-[[[3-[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]-3-oxopropyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]-3-oxopropyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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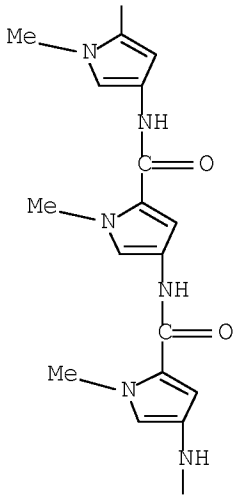

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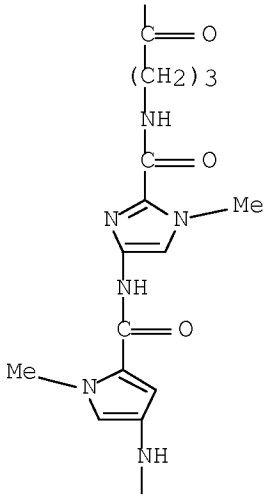

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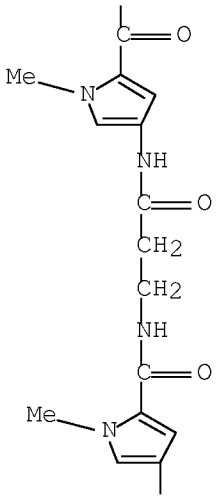

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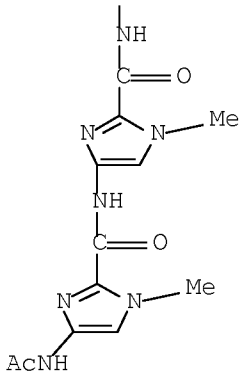
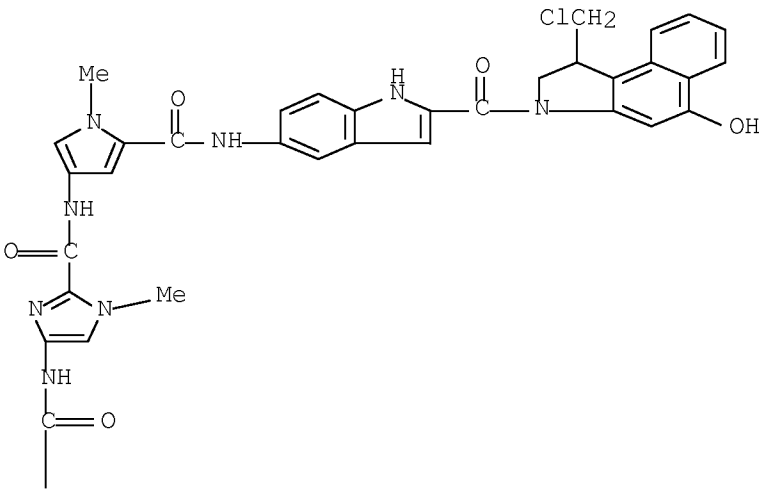


RN 947597-79-7 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-[[[4-[[[4-(acetylamino)-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-N-[4-[[2-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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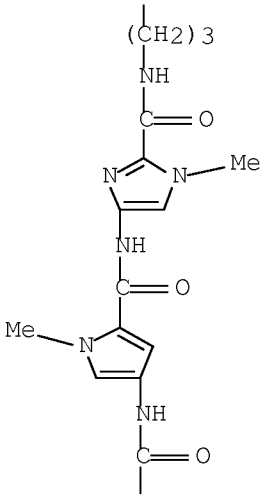

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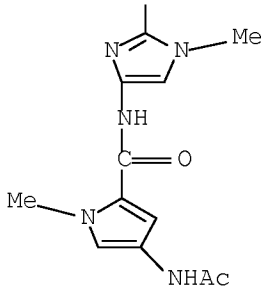

RN 947597-85-5 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-[[[4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-N-[4-[[2-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]-1-methyl- (CA INDEX NAME)

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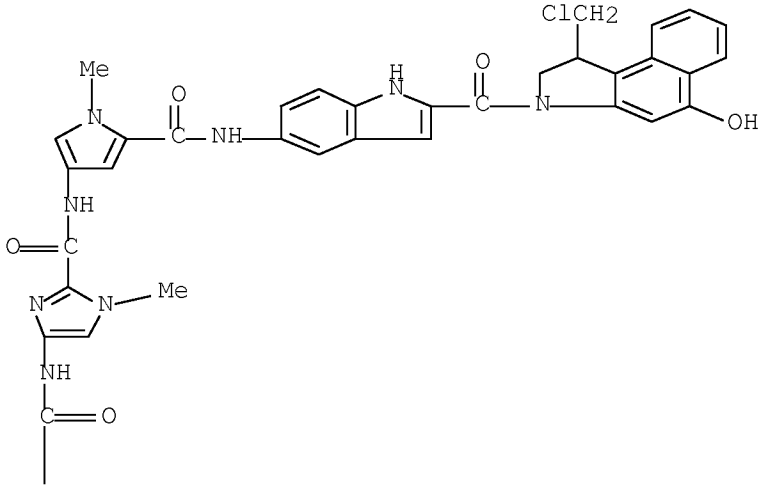

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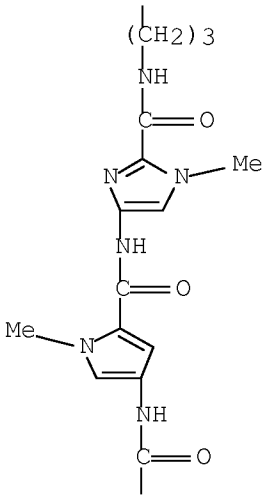

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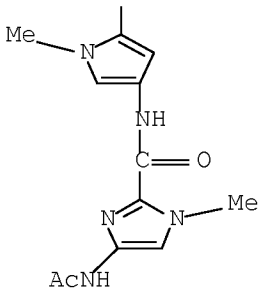
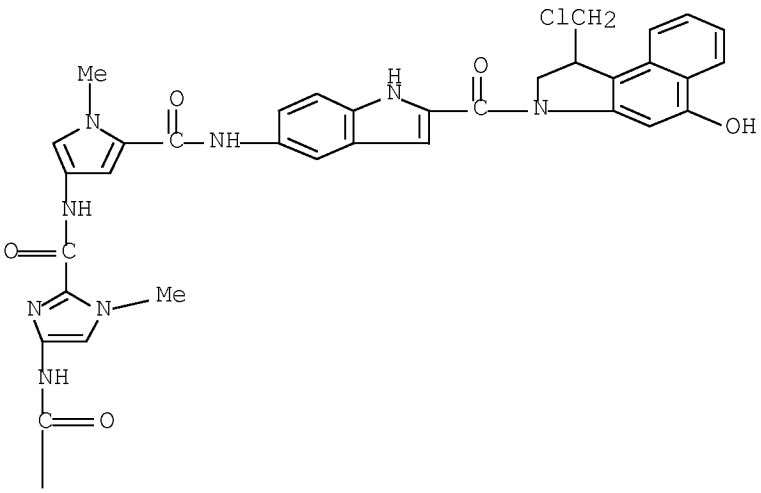


RN 947597-99-1 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[2-[[[4-[[2-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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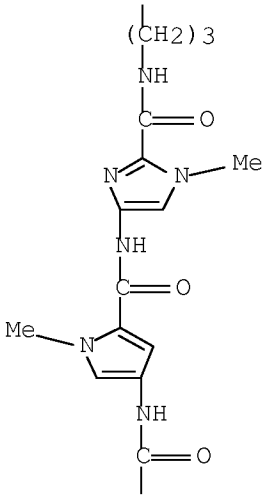

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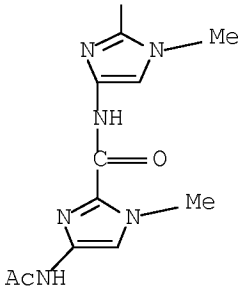
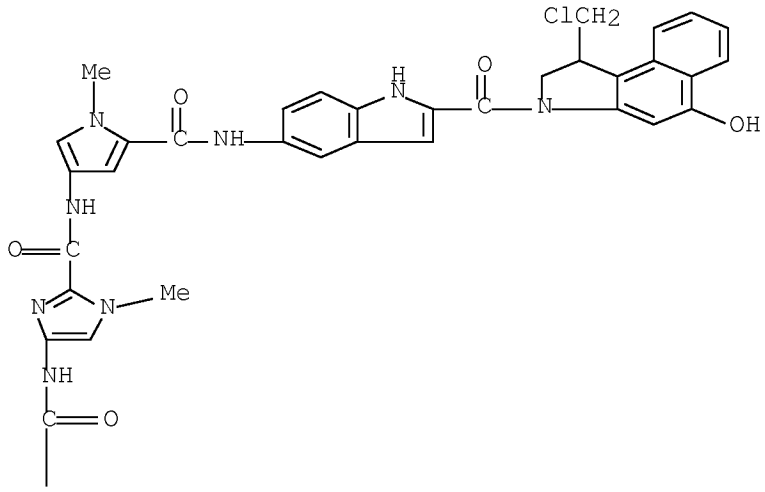


IT 947597-72-0P 947597-93-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(biol. impact of sequence-specific DNA alkylation by pyrroleimidazole polyamides)
RN 947597-72-0 CAPLUS
CN 1H-Imidazole-2-carboxamide, 4-[[[4-[[[4-[[[4-(acetylamino)-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-N-[4-[[2-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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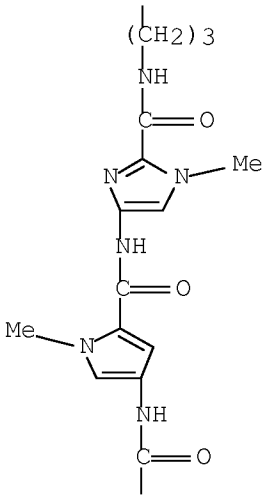

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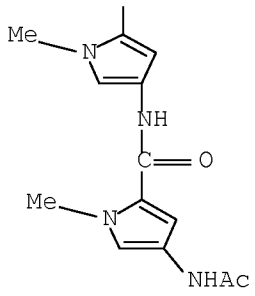

RN 947597-93-5 CAPLUS

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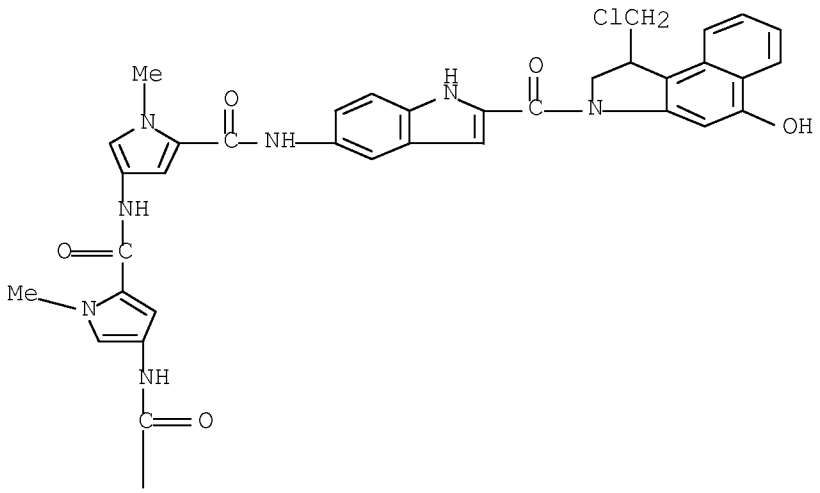
PAGE 1-A



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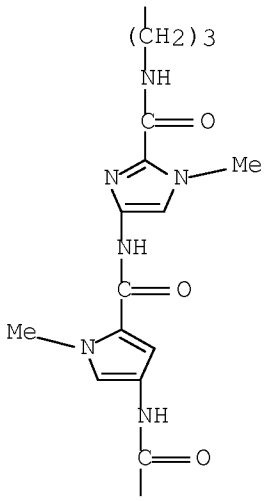
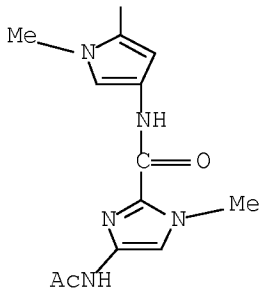




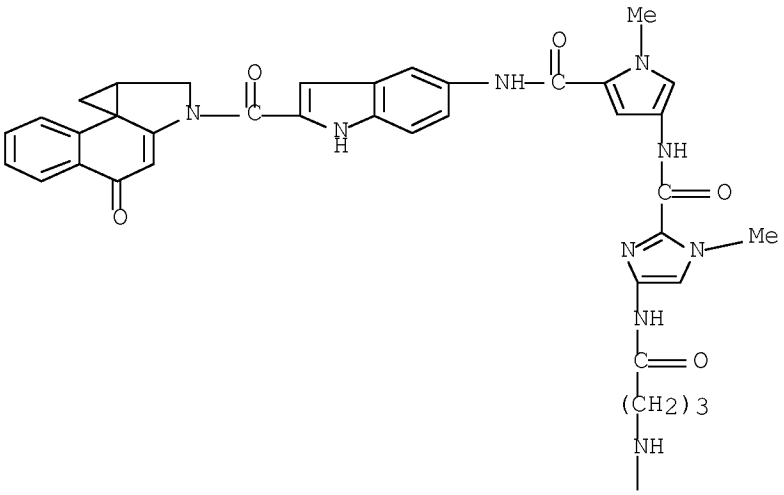
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:662248 CAPLUS Full-text
DOCUMENT NUMBER: 147:315627
TITLE: Sequence-specific gene silencing by alkylating Py-Im polyamide
AUTHOR(S): Shinohara, Ken-ichi; Sasaki, Shunta; Bando, Toshikazu; Sugiyama, Hiroshi
CORPORATE SOURCE: Graduate School of Science, Kyoto University, Kitashirakawa Oiwakecho, Sakyo-ku, Kyoto, 606-8502, Japan
SOURCE: Nucleic Acids Symposium Series (2005), (49), 75-76
CODEN: NASSCJ
URL: http://nass.oxfordjournals.org/content/vol49/issue1/index.dtl
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English

AB We have demonstrated that hairpin pyrrole (Py)-imidazole (Im) polyamide-CPI conjugates selectively induced luciferase gene silencing by sequence-specific alkylation of the coding region. Recently, we developed a new type of Py-Im polyamide CBI conjugate with an indole linker as a stable sequence-specific alkylating agent. In this study, we investigated the gene silencing ability of polyamides A, B and C, which potentially target specific sequences in the promoter region, noncoding strand, and coding strand of the green fluorescent protein (GFP) gene, resp. The GFP vectors were transfected into human colon carcinoma cells (HCT116), and the cells treated with 100 nM of the polyamides for 24 h. Using direct observation of cell by fluorescence microscopy, a significant GFP-gene silencing effect was only seen with treatment with polyamide C. Polyamides A and B did not show such activity.

IT 865113-64-0 865113-67-3 885028-77-3
RL: BSU (Biological study, unclassified); BIOL (Biological study) (sequence-specific green fluorescent protein gene silencing in human cells by alkylating Py-Im polyamide)
RN 865113-64-0 CAPLUS
CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[5-[[[4-[[2-[[[5-[[[2-[(9,9a-dihydro-4-oxo-1H-benzo[e]cycloprop[c]indol-2(4H)-yl)carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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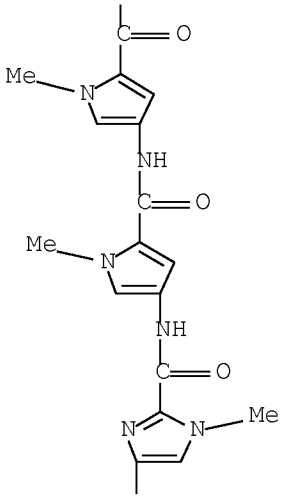

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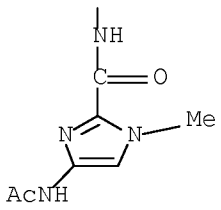

RN 865113-67-3 CAPLUS

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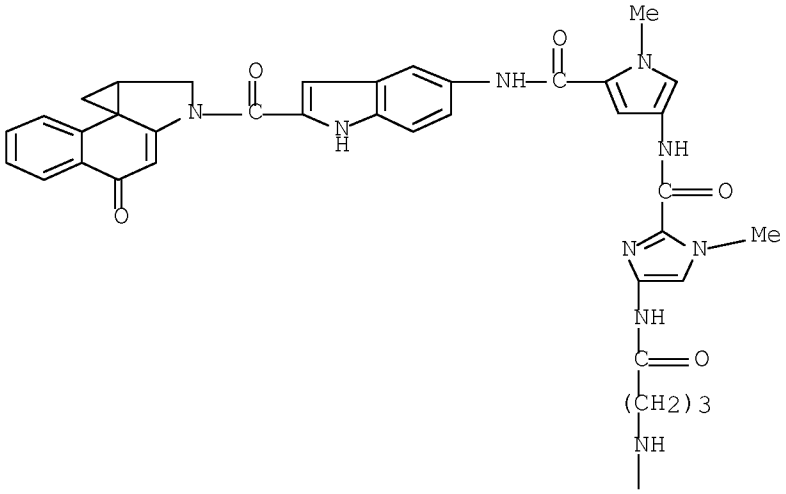

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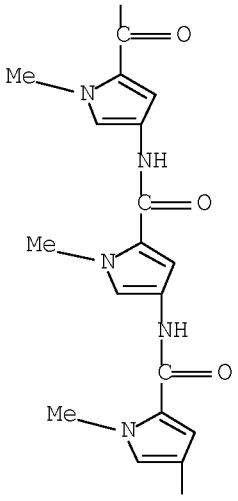

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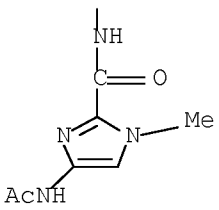
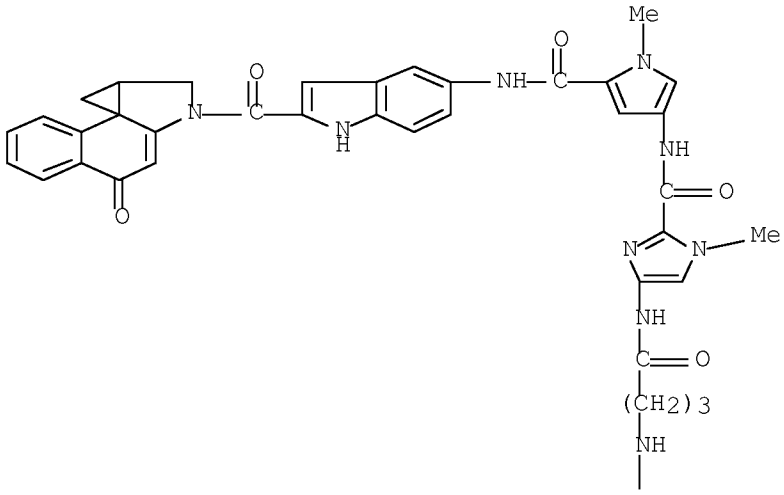


RN 885028-77-3 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-N-[5-[[[5-[[[4-[[2-[[[5-[[[2-[(9,9a-dihydro-4-oxo-1H-benzo[e]cycloprop[c]indol-2(4H)-yl)carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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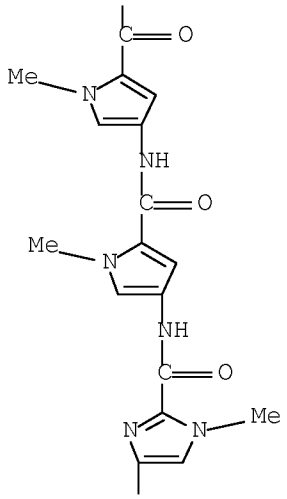

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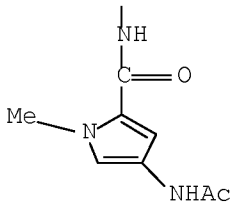


REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:662158 CAPLUS Full-text
DOCUMENT NUMBER: 148:517913
TITLE: Molecular design of alkylating pyrrole-imidazole polyamides with indole linker
AUTHOR(S): Sasaki, Shunta; Narita, Akihiko; Bando, Toshikazu; Sugiyama, Hiroshi
CORPORATE SOURCE: School of Biomedical Science, Tokyo Medical and Dental University, 2-3-10 Kanda-Surugadai, Chiyodaku, Tokyo, 101-0062, Japan
SOURCE: Nucleic Acids Symposium Series (2004), (48), 205-206
CODEN: NASSCJ
URL: http://nass.oxfordjournals.org/content/vol48/issue1/index.dtl
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English
AB A series of novel DNA alkylating polyamide possessing indole linker was synthesized. The reactivities and specificities of these polyamides with

double strand DNA were investigated by using high-resoln. gel electrophoresis. The results revealed that the indole linker linked Py-Im polyamides have the high alkylating activities and sequence specificities comparable to vinyl linker linked Py-Im polyamides.

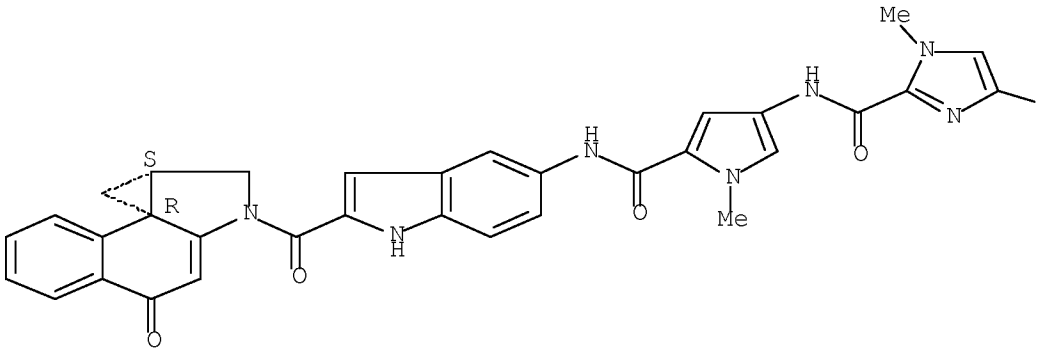
IT 1021452-23-2P 1021452-26-5P 1021452-29-8P
1021452-32-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(mol. design of alkylating pyrrole-imidazole polyamides with indole linker)

RN 1021452-23-2 CAPLUS

CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.

PAGE 1-A



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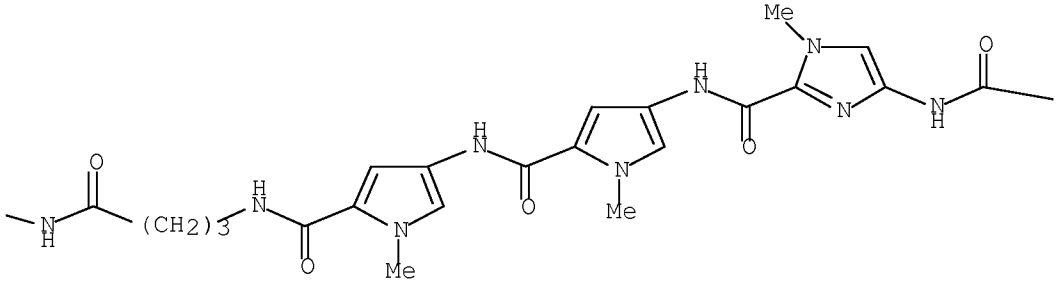

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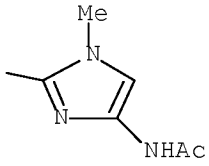
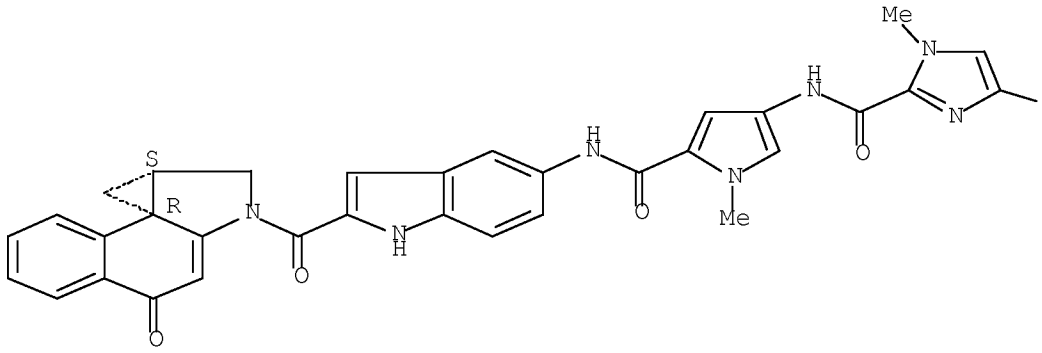


RN 1021452-26-5 CAPLUS
CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.

PAGE 1-A



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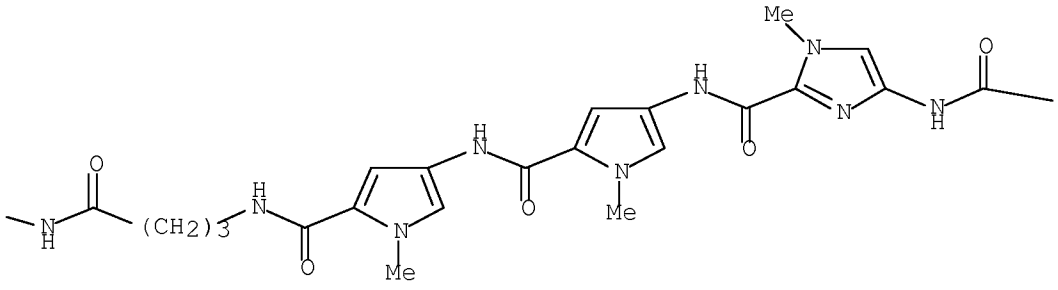

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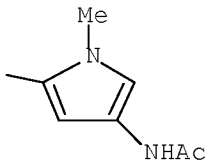
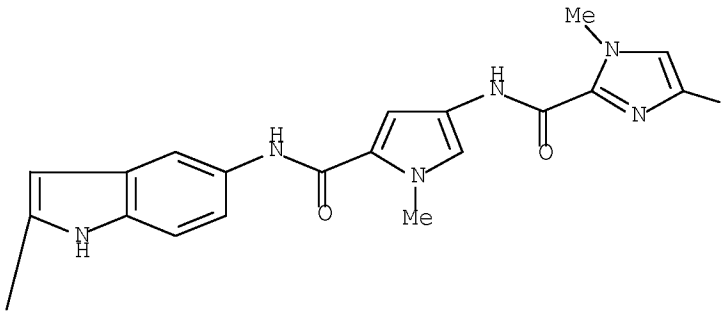


RN 1021452-29-8 CAPLUS
CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.

PAGE 1-A



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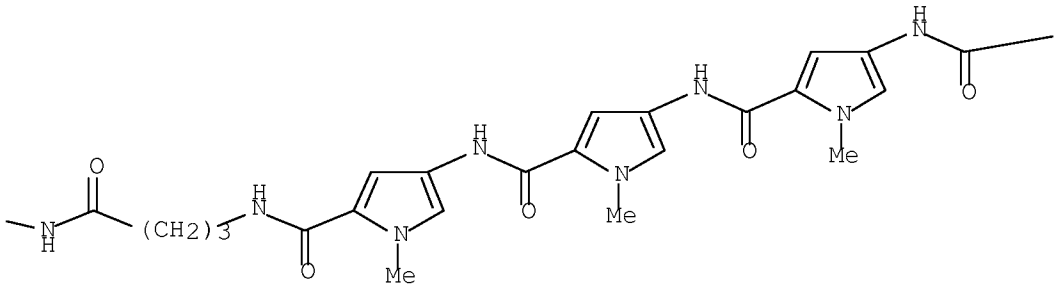

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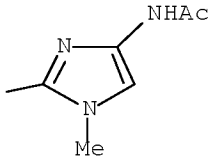

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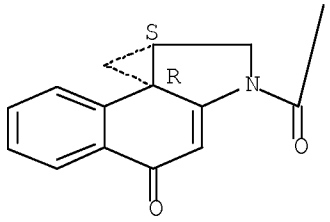
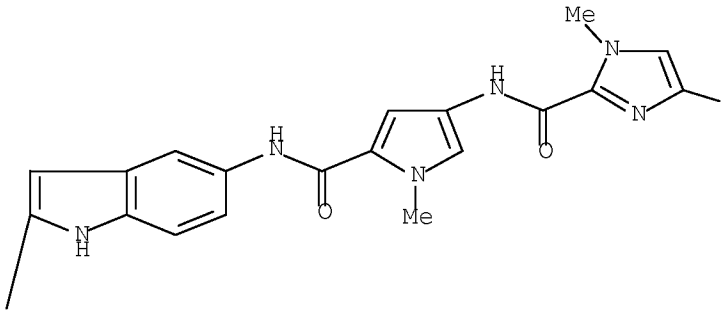


RN 1021452-32-3 CAPLUS
CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.

PAGE 1-A



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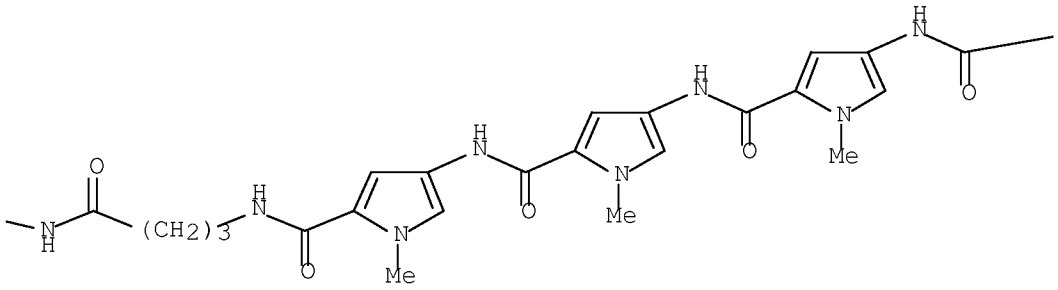

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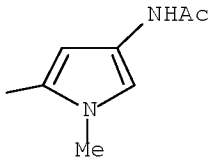

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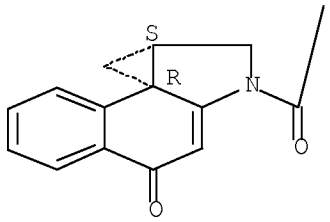


REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:408268 CAPLUS Full-text
DOCUMENT NUMBER: 147:47403
TITLE: DNA Alkylation by Pyrrole-Imidazole seco-CBI Conjugates with an Indole Linker: Sequence-Specific DNA Alkylation with 10-Base-Pair Recognition through Heterodimer Formation
AUTHOR(S): Minoshima, Masafumi; Bando, Toshikazu; Sasaki, Shunta; Shinohara, Ken-ichi; Shimizu, Tatsuhiko; Fujimoto, Jun; Sugiyama, Hiroshi
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Sakyo, Kyoto, 606-8502, Japan
SOURCE: Journal of the American Chemical Society (2007),

129(17), 5384-5390
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 147:47403

AB The sequence-specific DNA alkylation by conjugates 4 and 5, which consist of N-methylpyrrole (Py)-N-methylimidazole (Im) polyamides and 1-(chloromethyl)-5-hydroxy-1,2-dihydro-3H-benz[e]indole (seco-CBI) linked with an indole linker, was investigated in the absence or presence of partner Py-Im polyamide 6. High-resoln. denaturing PAGE revealed that conjugate 4 alkylates DNA at the sequences 5'-(A/T)GCCTA-3' through hairpin formation, and alkylates 5'-GGAAAGAAAA-3' through an extended binding mode. However, in the presence of partner Py-Im polyamide 6, conjugate 4 alkylates DNA at a completely different sequence, 5'-AGGTTGTCCA-3'. Alkylation of 4 in the presence of 6 was effectively inhibited by a competitor 7. Surface plasmon resonance (SPR) results indicated that conjugate 4 does not bind to 5'-AGGTTGTCCA-3', whereas 6 binds tightly to this sequence. The results suggest that alkylation proceeds through heterodimer formation, indicating that this is a general way to expand the recognition sequence for DNA alkylation by Py-Im seco-CBI conjugates.

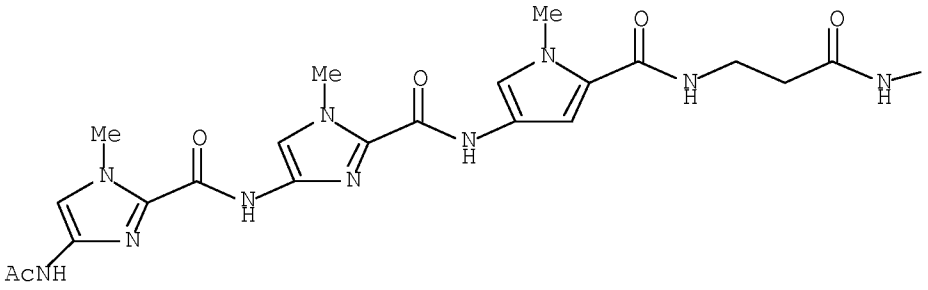
IT 939435-69-5P 939435-70-8P
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(sequence-specific DNA alkylation by pyrrole-imidazole seco-CBI conjugates with an indole linker)

RN 939435-69-5 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[3-[[2-[[[5-[[[2-[[(1S)-1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-3-oxopropyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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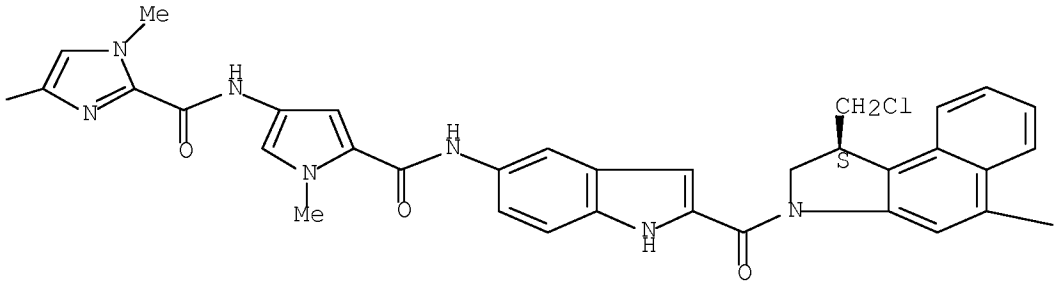


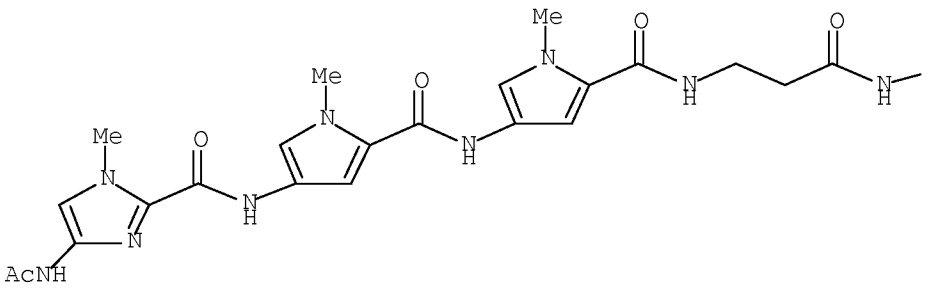
PAGE 1-C

RN 939435-70-8 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-(acetylamino)-N-[5-[[[5-[[[3-[[2-[[[5-[[[2-[[(1S)-1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-3-oxopropyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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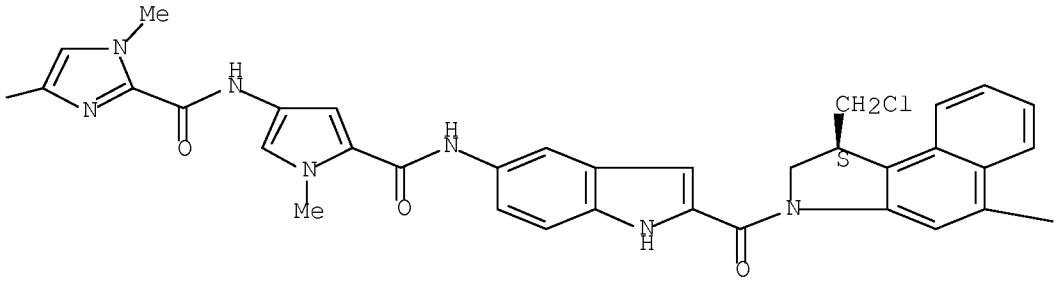

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L4 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:860352 CAPLUS Full-text
DOCUMENT NUMBER: 145:448749
TITLE: Sequence-Specific Alkylation of Double-Strand Human Telomere Repeat Sequence by Pyrrole-Imidazole Polyamides with Indole Linkers
AUTHOR(S): Sasaki, Shunta; Bando, Toshikazu; Minoshima, Masafumi; Shimizu, Tatsuhiko; Shinohara, Ken-Ichi; Takaoka, Toshiyasu; Sugiyama, Hiroshi
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Kyoto, 606-8502, Japan
SOURCE: Journal of the American Chemical Society (2006), 128(37), 12162-12168
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 145:448749
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The authors designed and synthesized pyrrole (Py)-imidazole (Im) hairpin polyamide 1-(chloromethyl)-5-hydroxy-1,2-dihydro-3H-benz[e]indole (seco-CBI) conjugates which target both strands of the double-stranded region of the human telomere repeat sequences, 5'-d(TTAGGG)n-3'/5'- d(CCCTAA)n-3'. High-resoln. denaturing PAGE demonstrated that the conjugates alkylated DNA at the 3' A of 5'-ACCCTA-3' and 5'-AGGGTTA-3', resp. Cytotoxicities of the conjugates were evaluated using 39 human cancer cell lines; avs. of log IC50 values for these conjugates were -6.96 (110 nM) and -7.24 (57.5 nM), resp. These conjugates have potential as antitumor drugs capable of targeting telomere repeat sequence.

IT 865113-70-8P

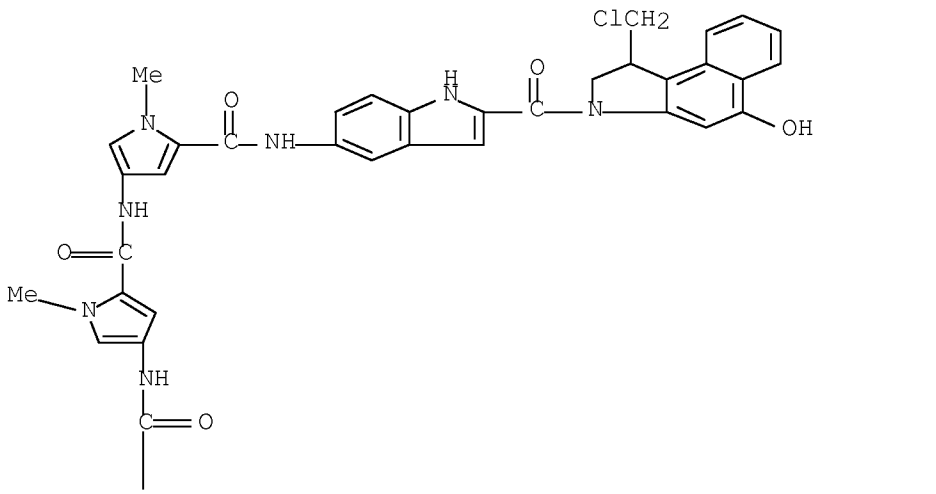
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(sequence-specific alkylation of double-strand human telomere repeat sequence by pyrrole-imidazole polyamides with indole linkers)

RN 865113-70-8 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[2-[[[4-[[5-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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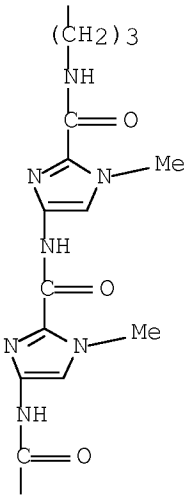

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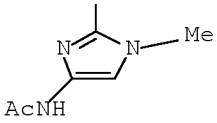


REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:385992 CAPLUS Full-text
DOCUMENT NUMBER: 145:103905
TITLE: Efficient DNA Alkylation by a Pyrrole-Imidazole CBI Conjugate with an Indole Linker: Sequence-Specific Alkylation with Nine-Base-Pair Recognition
AUTHOR(S): Bando, Toshikazu; Sasaki, Shunta; Minoshima, Masafumi; Dohno, Chikara; Shinohara, Ken-Ichi; Narita, Akihiko; Sugiyama, Hiroshi
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Kyoto, 606-8501, Japan
SOURCE: Bioconjugate Chemistry (2006), 17(3), 715-720
CODEN: BCCHES; ISSN: 1043-1802
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 145:103905

AB Conjugates of N-methylpyrrole (Py)-N-methylimidazole (Im) polyamides and 1,2,9,9a-tetrahydrocyclopropa[1,2-c]benz[1,2-e]indol-4-one (CBI) with a 5-amino-1H-indole-2-carbonyl linker were synthesized by Fmoc solid-phase synthesis and a subsequent liq.-phase coupling procedure. The DNA alkylating abilities of imidazole conjugates were examd. using Texas Red-labeled PCR

fragments and high-resoln. denaturing gel electrophoresis. CBI conjugates exhibited highly efficient sequence-specific DNA alkylation comparable with previous CBI conjugates with a vinyl linker. Introduction of an indole linker greatly facilitated the synthesis of sequence-specific alkylating Py-Im polyamides.

IT 865113-64-0P 865113-66-2P 865113-72-0P 893419-09-5P

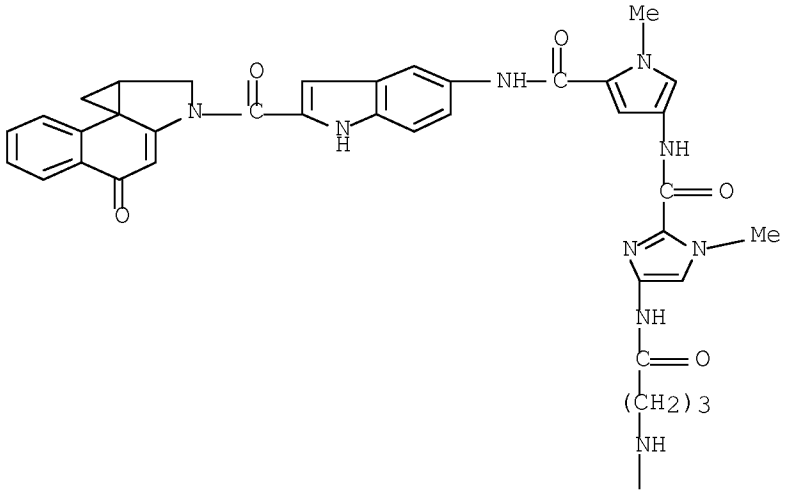
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(DNA alkylation by pyrrole-imidazole hydrocyclopropabenzindolone conjugate with indole linker and sequence-specific alkylation with nine-base-pair recognition)

RN 865113-64-0 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[5-[[[4-[[2-[[[5-[[[2-[(9,9a-dihydro-4-oxo-1H-benzo[e]cycloprop[c]indol-2(4H)-yl)carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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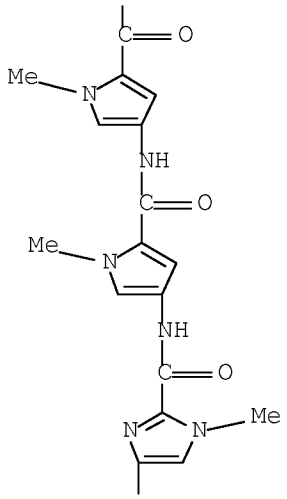

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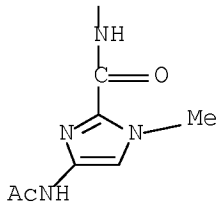

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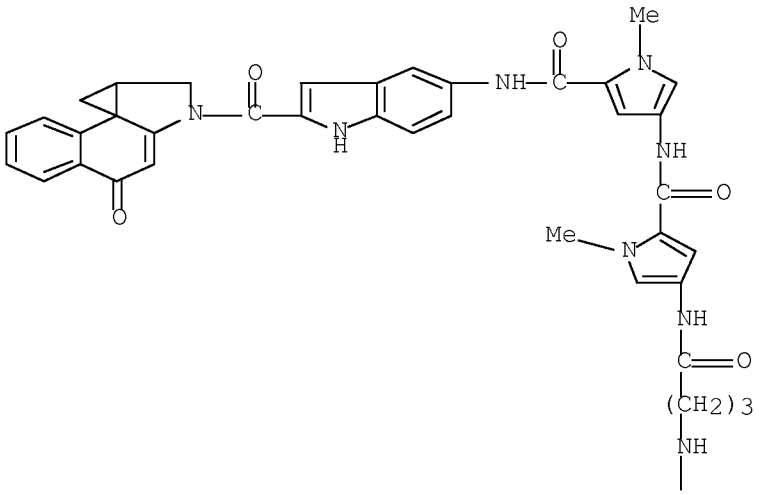

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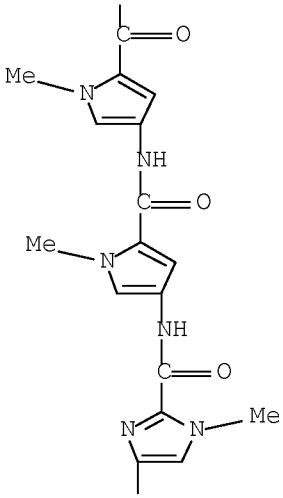

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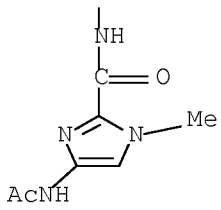

RN 865113-72-0 CAPLUS

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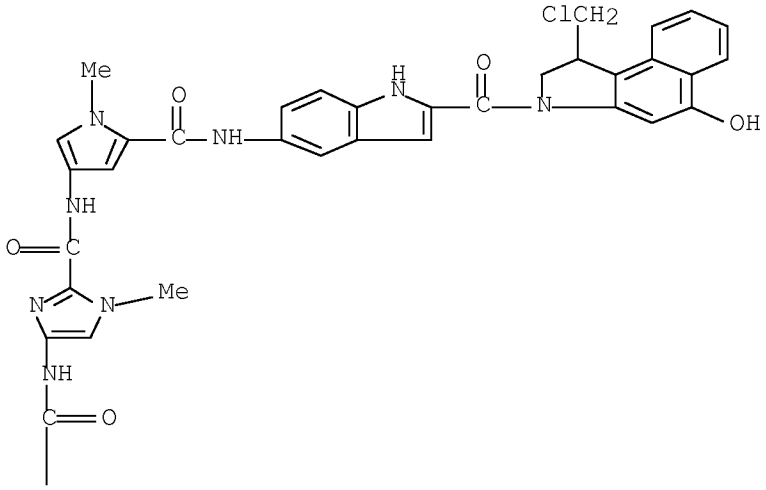

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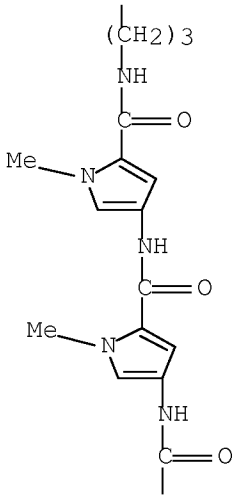

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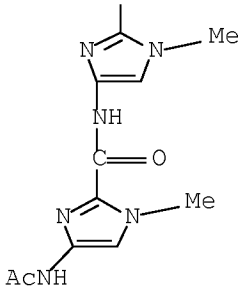

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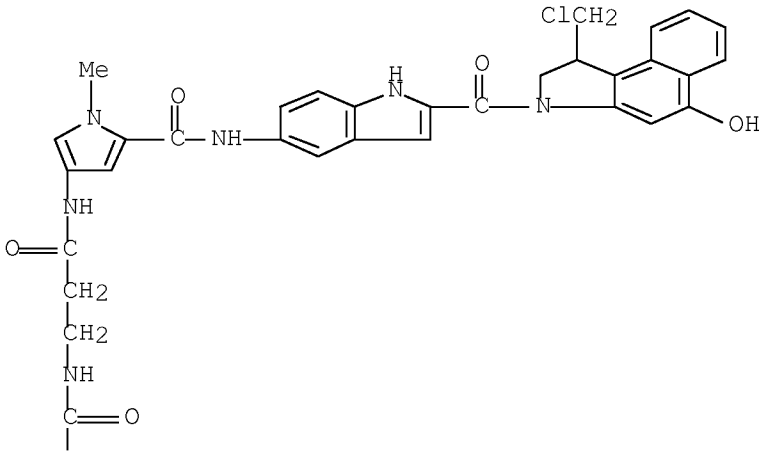

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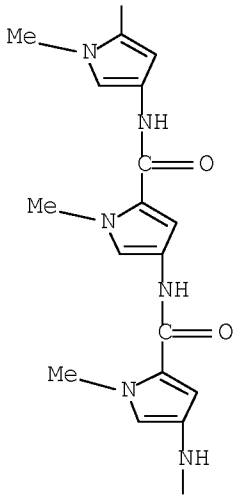

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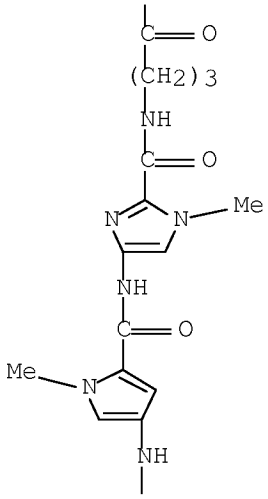

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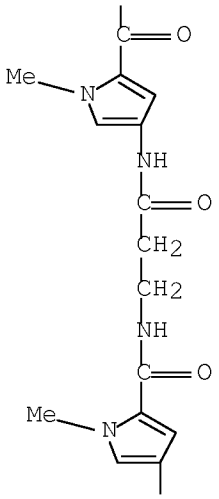

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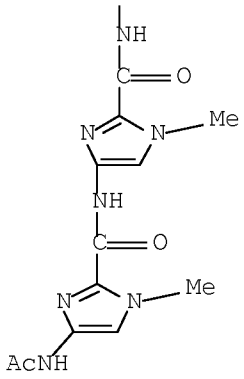

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:367591 CAPLUS Full-text

DOCUMENT NUMBER: 145:431752

TITLE: Antitumor activity of sequence-specific alkylating agents: pyrolle-imidazole CBI conjugates with indole linker

AUTHOR(S): Shinohara, Ken-ichi; Bando, Toshikazu; Sasaki, Shunta; Sakakibara, Yogo; Minoshima, Masafumi; Sugiyama, Hiroshi

CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Kitashirakawa-Oiwakecho, Sakyo, Kyoto, 606-8502, Japan

SOURCE: Cancer Science (2006), 97(3), 219-225
CODEN: CSACCM; ISSN: 1347-9032

PUBLISHER: Blackwell Publishing Asia Pty Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB DNA-targeting agents, including cisplatin, bleomycin and mitomycin C, are used routinely in cancer treatments. However, these drugs are extremely toxic, attacking normal cells and causing severe side effects. One important question to consider in designing anticancer agents is whether the introduction of sequence selectivity to DNA-targeting agents can improve their efficacy as anticancer agents. In the present study, the growth inhibition activities of an indole-seco 1,2,9,9a- tetrahydrocyclopropa[1,2-c]benz[1,2-e]indol-4-one (CBI) (1) and five conjugates with hairpin pyrrole-imidazole polyamides (2-6), which have different sequence specificities for DNA alkylation, were compared using 10 different cell lines. The av. values of -log GI50 (50% growth inhibition concn.) for compds. 1-6 against the 10 cell lines were 8.33, 8.56, 8.29, 8.04, 8.23 and 8.83, showing that all of these compds. strongly inhibit cell growth. Interestingly, each alkylating agent caused significantly different growth inhibition patterns with each cell line. In particular, the correlation coeffs. between the -log GI50 of compd. 1 and its conjugates 2-6 showed extremely low values (R < 0). These results suggest that differences in the sequence specificity of DNA alkylation lead to marked differences in biol. activity. Comparison of the correlation coeffs. between compds. 6 and 7, with the same sequence specificity as 6, and MS-247, with sequence specificity different from 6, when used against a panel of 37 human cancer cell lines further confirmed the above hypothesis.

IT 865113-64-0 865113-66-2 865113-67-3
885028-77-3 912572-04-4
RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antitumor activity of pyrolle-imidazole CBI conjugates with indole linker)

RN 865113-64-0 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[5-[[[4-[[2-[[[5-[[[2-[(9,9a-dihydro-4-oxo-1H-benzo[e]cycloprop[c]indol-2(4H)-yl)carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

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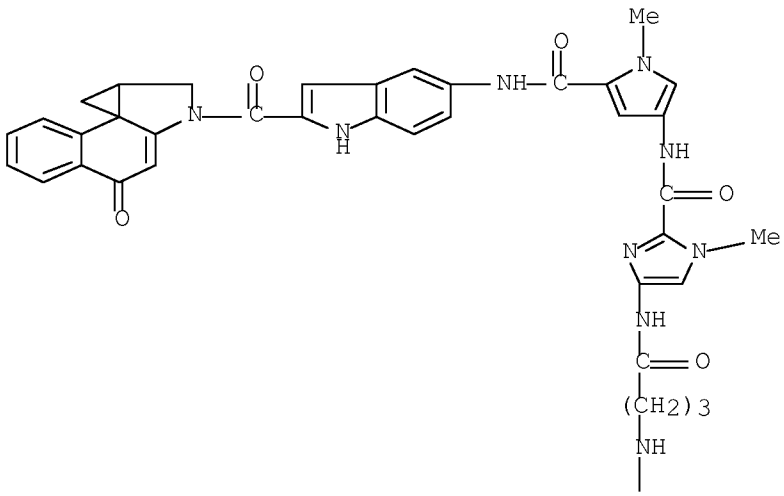

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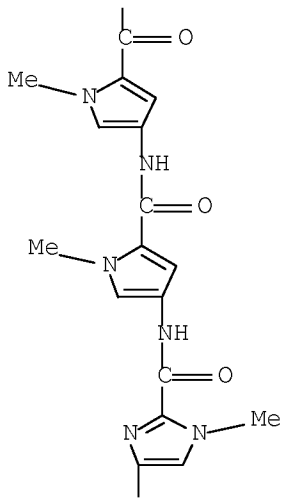

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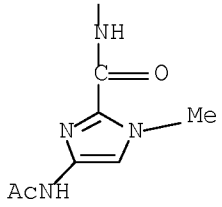

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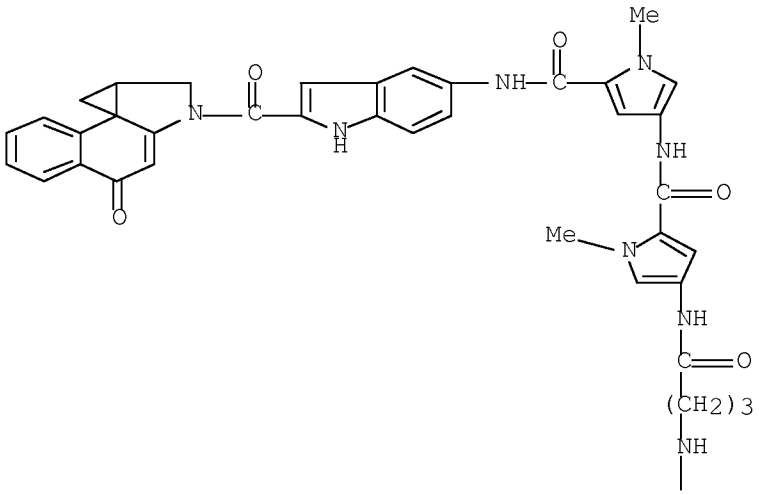

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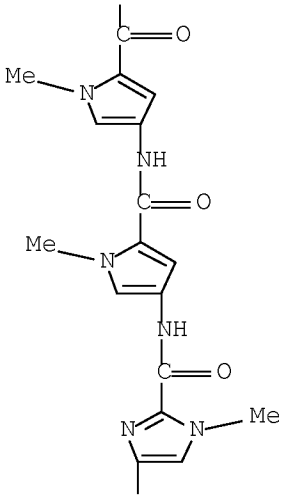

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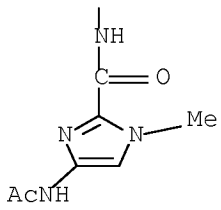

RN 865113-67-3 CAPLUS

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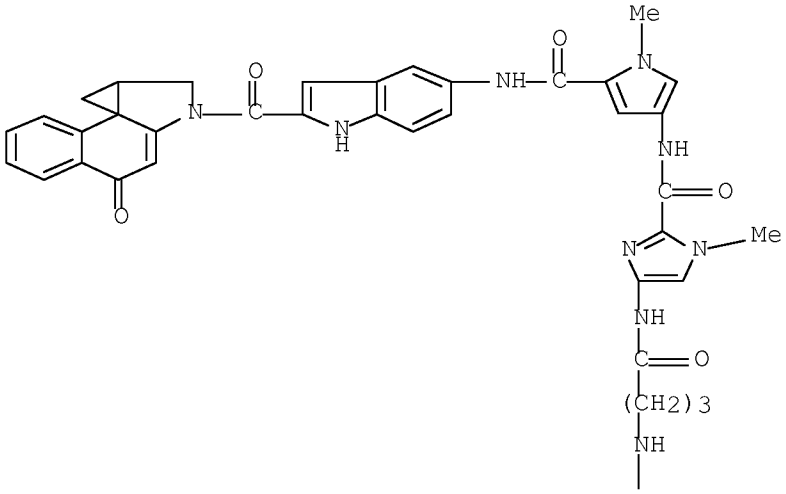

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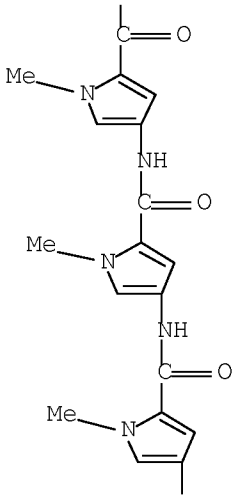

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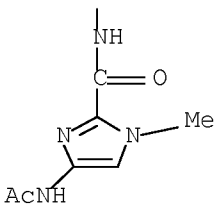

RN 885028-77-3 CAPLUS

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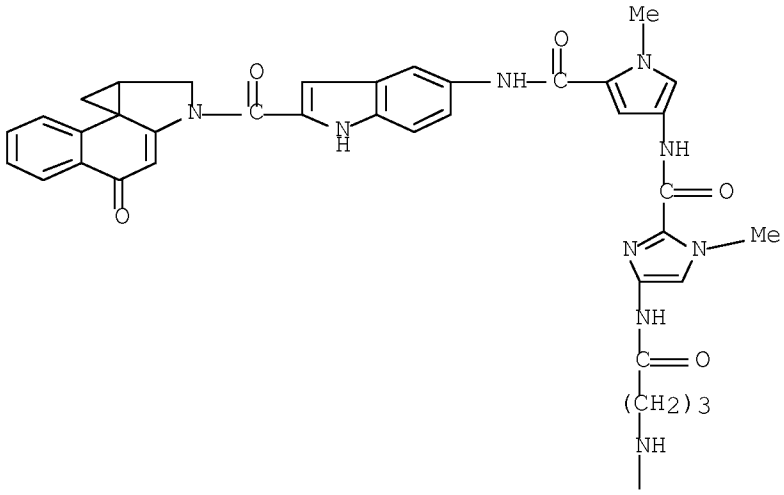

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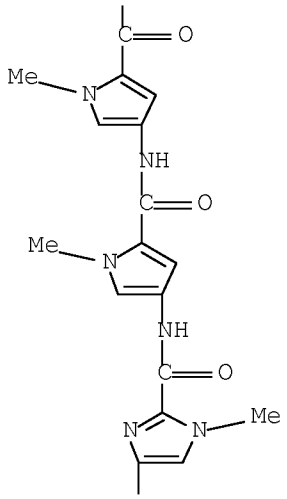

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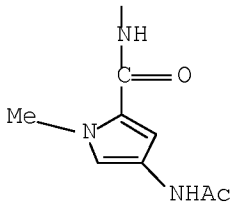

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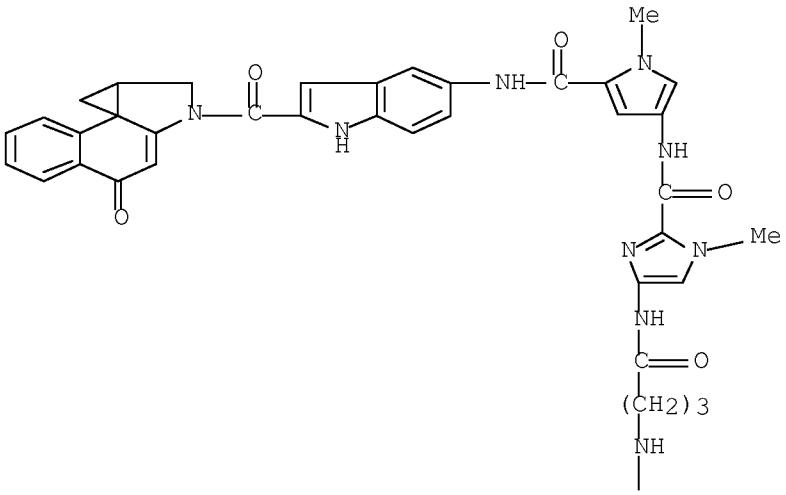

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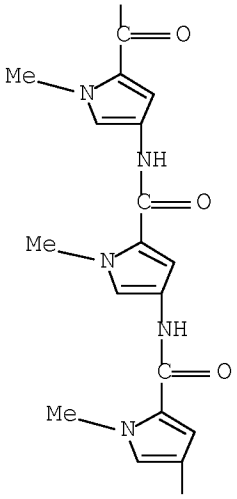

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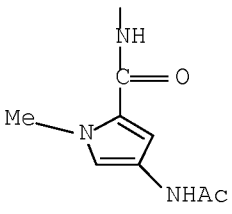

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L4 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:207991 CAPLUS Full-text
DOCUMENT NUMBER: 144:426676
TITLE: Alkylation of template strand of coding region causes effective gene silencing
AUTHOR(S): Shinohara, Ken-ichi; Sasaki, Shunta; Minoshima, Masafumi; Bando, Toshikazu; Sugiyama, Hiroshi
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Kitashirakawa-Oiwakecho, Sakyo, Kyoto, 606-8502, Japan
SOURCE: Nucleic Acids Research (2006), 34(4), 1189-1195
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We recently developed a new type of pyrrole (Py)-imidazole (Im) polyamide-tetrahydrocyclopropabenzindolone (CBI) conjugate with an indole linker as a stable sequence-specific alkylating agent. In this study, we investigated the gene silencing activities of polyamides A, B and C, which selectively alkylate specific sequences in the promoter region, non-coding strand and coding strand, resp., of the green fluorescent protein (GFP) gene. GFP vectors were transfected into human colon carcinoma cells (HCT116), and the cells were treated with 100 nM of the polyamides for 24 h. Fluorescence microscopy indicated that a significant redn. of GFP fluorescence was only obsd. in the cells that were treated with polyamide C. In clear contrast, polyamides A and B did not show such activity. Moreover, real-time PCR demonstrated selective redn. of the expression of GFP mRNA following treatment with polyamide C. These results suggest that alkylating Py-Im polyamides that target the coding strand represent a novel approach for sequence-specific gene silencing.

IT 865113-64-0 865113-67-3 885028-77-3
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(alkylation and gene silencing by; alkylation of template strand of coding region causes effective gene silencing)

RN 865113-64-0 CAPLUS
CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[5-[[[4-[[2-[[[5-[[[2-[(9,9a-dihydro-4-oxo-1H-benzo[e]cycloprop[c]indol-2(4H)-yl)carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

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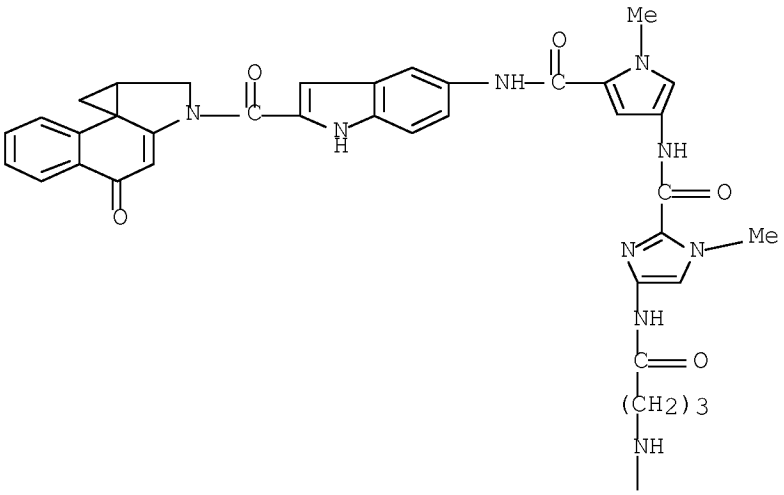

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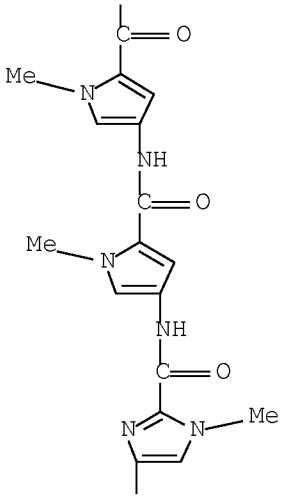

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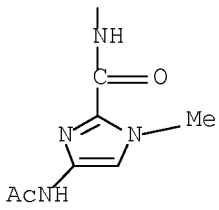

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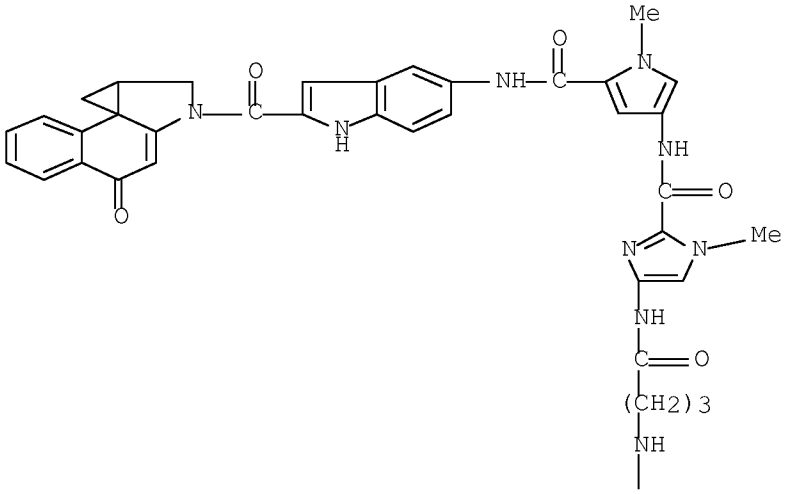

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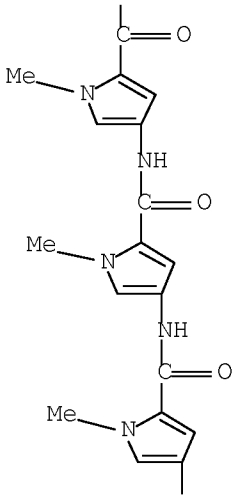

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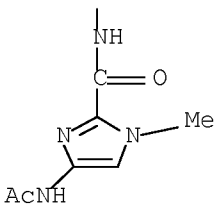

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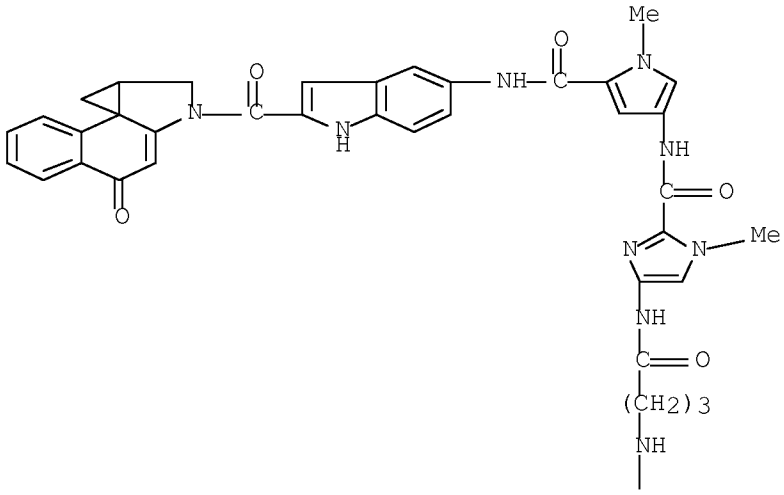

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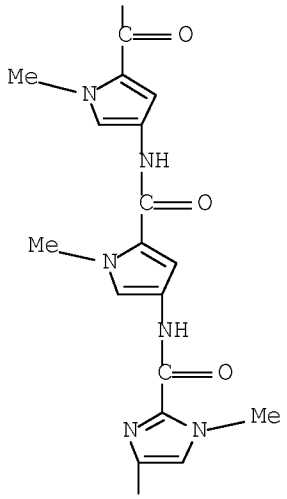

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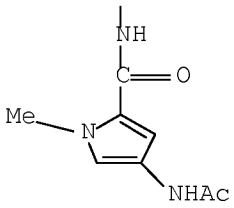

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:1026947 CAPLUS Full-text
DOCUMENT NUMBER: 143:326365
TITLE: Preparation of indole derivatives for alkylating specific base sequence of DNA
INVENTOR(S): Sugiyama, Hiroshi; Bando, Toshikazu
PATENT ASSIGNEE(S): TMRC Co., Ltd., Japan
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005087762	A1	20050922	WO 2005-JP4250	20050310

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GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,
SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

AU 2005221959	A1	20050922	AU 2005-221959		20050310
EP 1731519	A1	20061213	EP 2005-720521		20050310
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR					
CN 1930151	A	20070314	CN 2005-80008104		20050310
US 20070191260	A1	20070816	US 2006-598789		20060912
KR 2007020425	A	20070221	KR 2006-718793		20060913
IN 2006MN01132	A	20070420	IN 2006-MN1132		20060922
PRIORITY APPLN. INFO.:			JP 2004-114793	A	20040313
			WO 2005-JP4250	W	20050310

OTHER SOURCE(S): MARPAT 143:326365
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

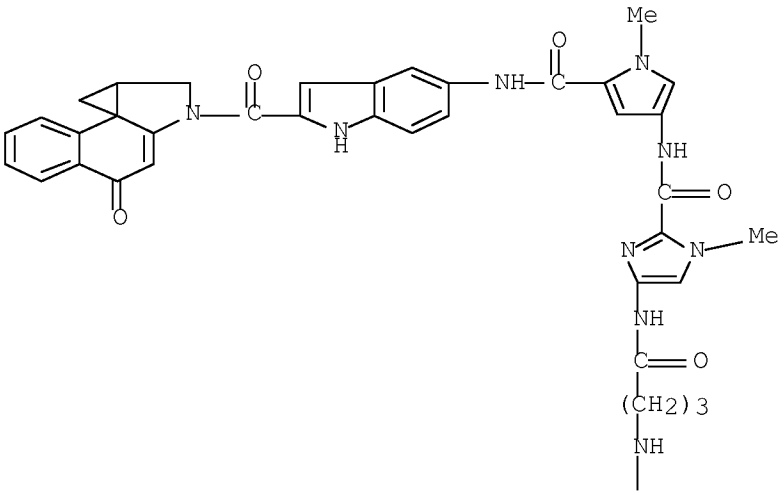
AB Title compds. I [R1 = functional group alkylating DNA;; R2 = H, alkyl, acyl; X = II, etc.] were prepd. For example, EDCI mediated amidation of compd. III [R = 2-carboxyindol-5-ylamino], e.g., prepd. from III [R = OH] in 2 steps, with 1-(chloromethyl)-2,3-dihydro-1H-benz[e]indol-5-ol followed treatment with aq. NaHCO3 afforded compd. IV. In antitumor activity assays for 39 cancer cell lines (in vitro), the av. IC50 value of compd. IV was 100 nM. Compds. I are claimed useful as DNA alkylating agents.

IT 865113-64-0P 865113-66-2P 865113-67-3P
865113-68-4P 865113-69-5P 865113-70-8P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of indole derivs. as DNA alkylating agents)

RN 865113-64-0 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[5-[[[4-[[2-[[[5-[[[2-[(9,9a-dihydro-4-oxo-1H-benzo[e]cycloprop[c]indol-2(4H)-yl)carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

PAGE 1-A



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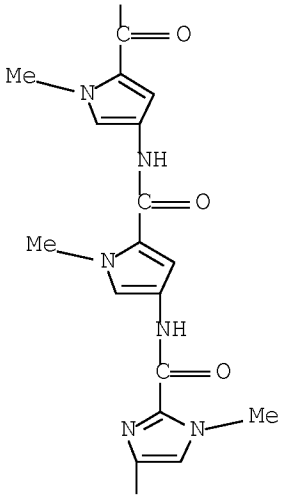

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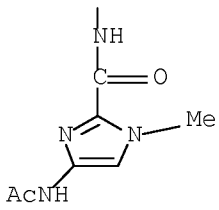

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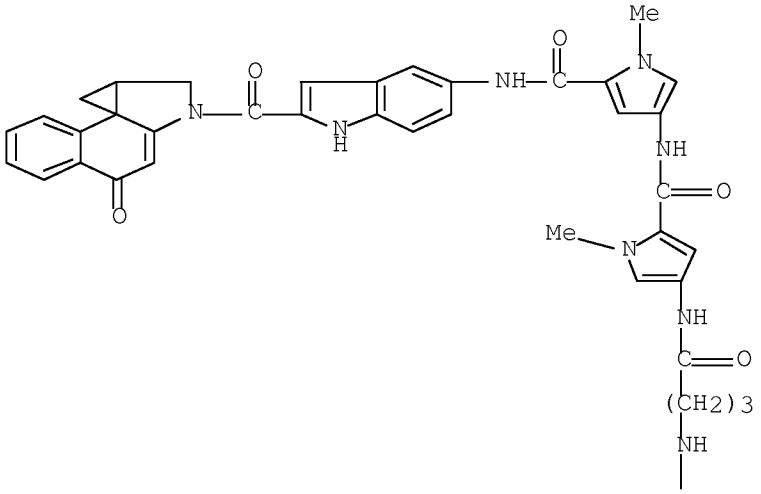

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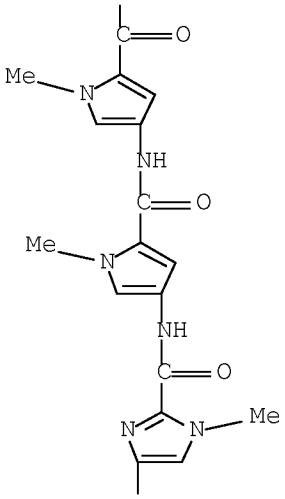

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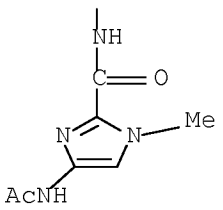

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CN 1H-Imidazole-2-carboxamide, 4-(acetylamino)-N-[5-[[[5-[[[5-[[[4-[[2-[[[5-[[[2-[(9,9a-dihydro-4-oxo-1H-benzo[e]cycloprop[c]indol-2(4H)-yl)carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

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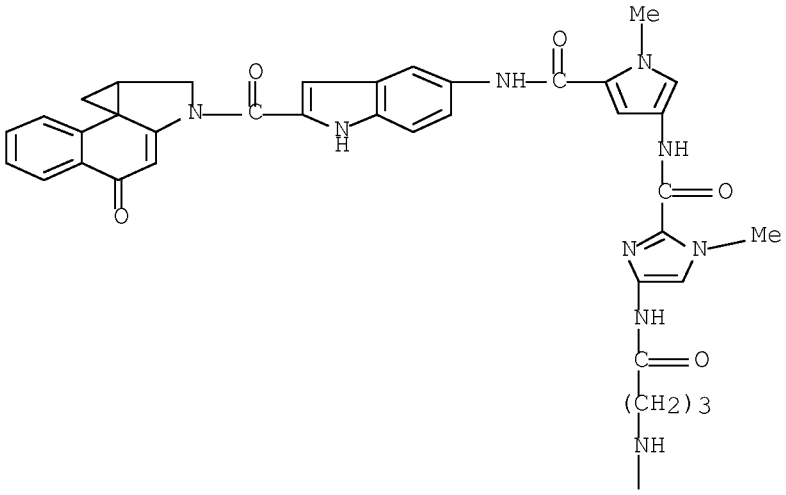

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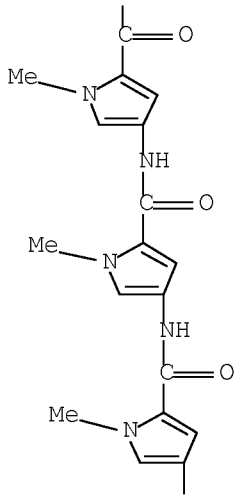

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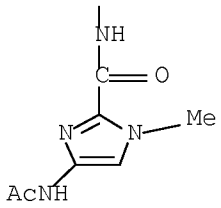

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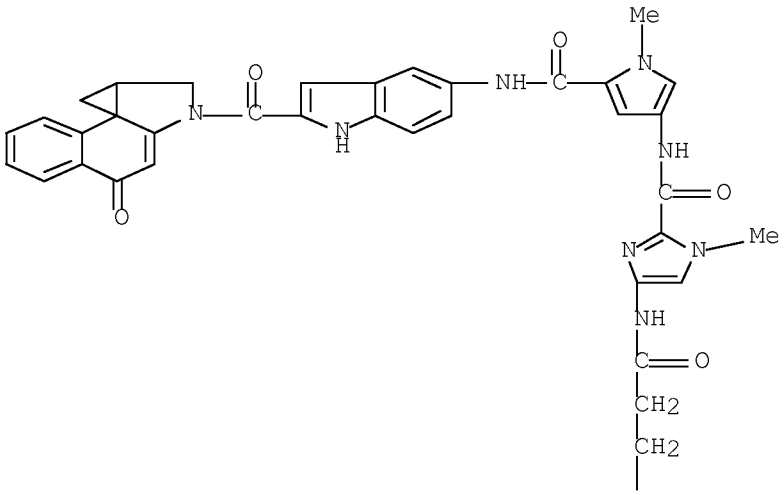

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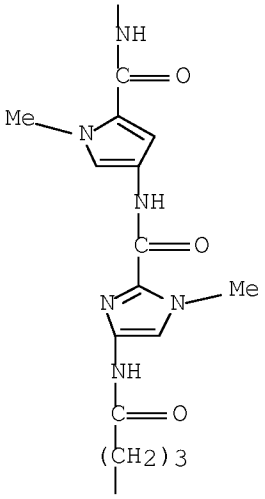

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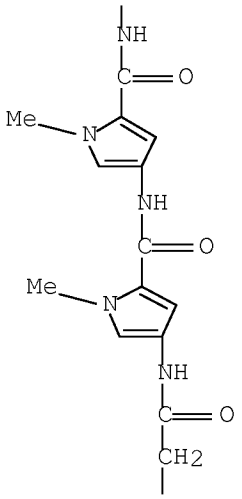

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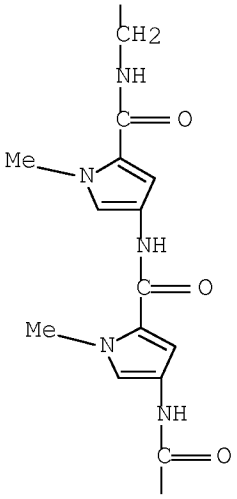

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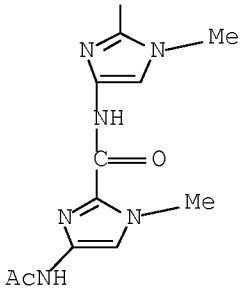

RN 865113-69-5 CAPLUS

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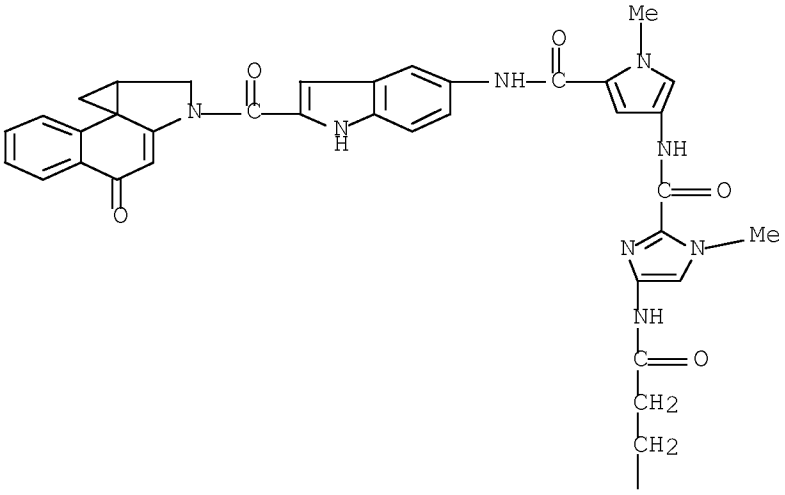

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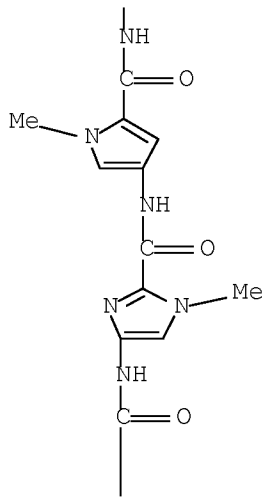

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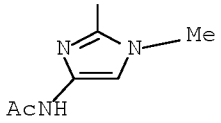

RN 865113-70-8 CAPLUS

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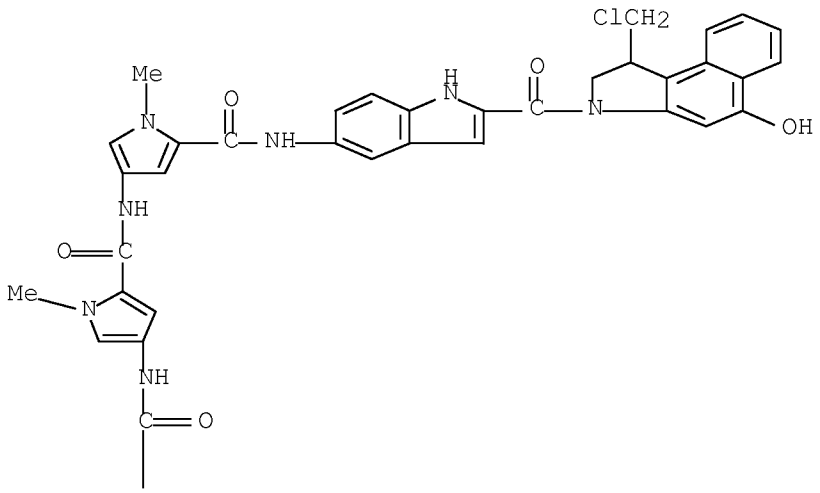
PAGE 1-A



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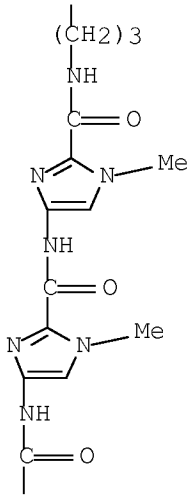

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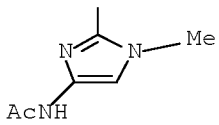

IT 865113-72-0
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of indole derivs. as DNA alkylating agents)

RN 865113-72-0 CAPLUS

CN 1H-Imidazole-2-carboxamide, 4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-N-[5-[[[5-[[[4-[[2-[[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]-4-oxobutyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (CA INDEX NAME)

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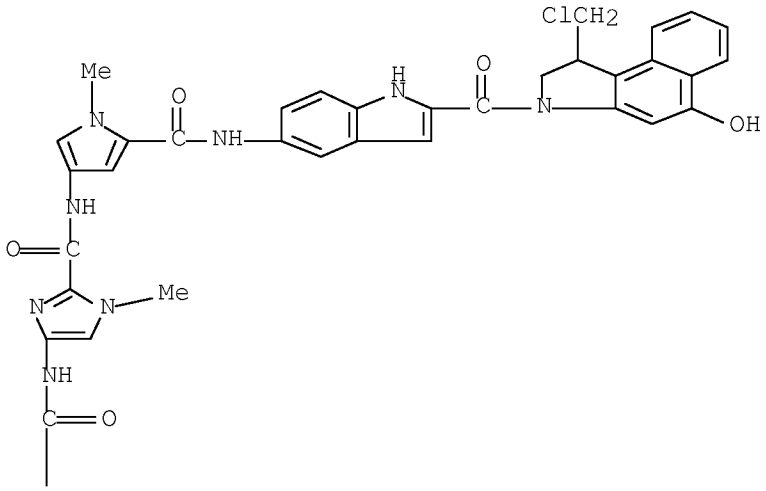

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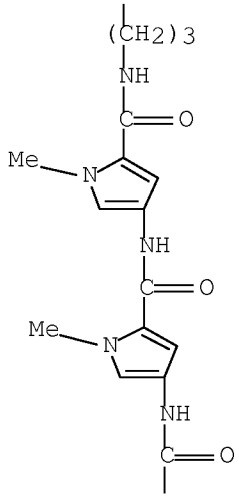

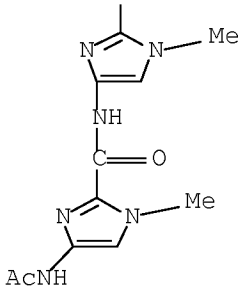

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:696700 CAPLUS Full-text
DOCUMENT NUMBER: 139:219341
TITLE: DNA-binding amide-drug conjugates
INVENTOR(S): Szekely, Zoltan; Hariprakasha, Humcha Krishnamurthy; Cholody, Marek W.; Michejda, Christopher J.
PATENT ASSIGNEE(S): The Government of the United States of America, Represented by the Secretary Department of Health and Human Services, USA
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2003072058	A2	20030904	WO 2003-US6006		20030227
WO 2003072058	A3	20040805			
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
AU 2003217782	A1	20030909	AU 2003-217782		20030227
US 20050096261	A1	20050505	US 2004-506085		20041001
PRIORITY APPLN. INFO.:			US 2002-361050P	P	20020227
			US 2002-370168P	P	20020405
			WO 2003-US6006	W	20030227

OTHER SOURCE(S): MARPAT 139:219341
AB An amide conjugate comprising a DNA intercalator binds to the minor groove of DNA. A compn. comprising the conjugate and a carrier is useful for treating cancer in a mammal. Thus, 1-(chloromethyl)-5-hydroxy-1,2-dihydro- 3H-

benz[e]indole-8-carboxylic acid (CBIr), a rigid DNA alkylator, was prepd. and conjugated to an imidazole-contg. deriv.

IT 591248-24-7

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(DNA-binding polyamide drug conjugates)

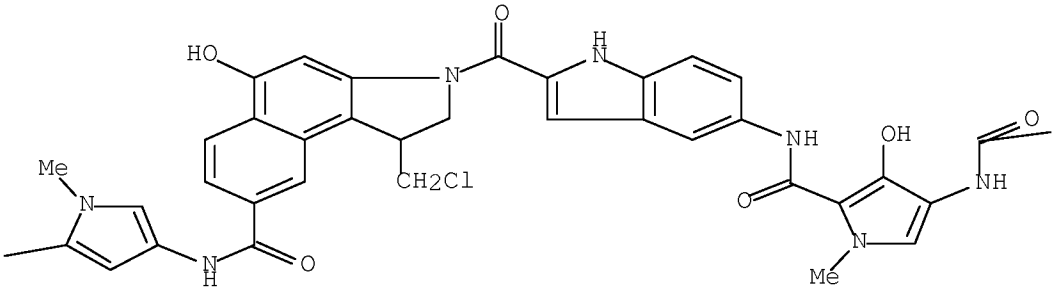
RN 591248-24-7 CAPLUS

CN 5,12-Naphthacenedione, 10-[[3-[[4-[[5-[[[2-[[1-(chloromethyl)-8-[2-[[5-[[[2-[[1-(chloromethyl)-1,2-dihydro-5-hydroxy-8-[[[1-methyl-5-[[[1-methyl-2-[[[3-[4-[3-[(6-oxo-6H-imidazo[4,5,1-de]acridin-5-yl)amino]propyl]-1-piperazinyl]propyl]amino]carbonyl]-1H-imidazol-4-yl]amino]carbonyl]-1H-pyrrol-3-yl]amino]carbonyl]-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-4-hydroxy-1-methyl-1H-pyrrol-3-yl]amino]-2-oxoethyl]-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]-4-oxobutyl]amino]-2,3,6-trideoxy-.alpha.-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S,10S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

PAGE 1-B



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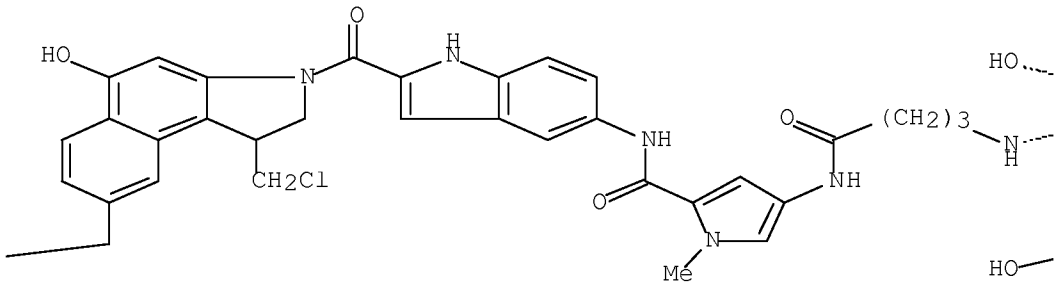

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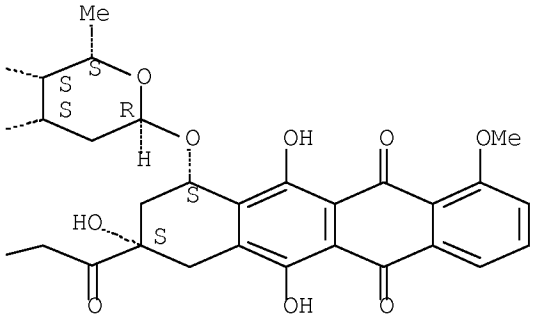

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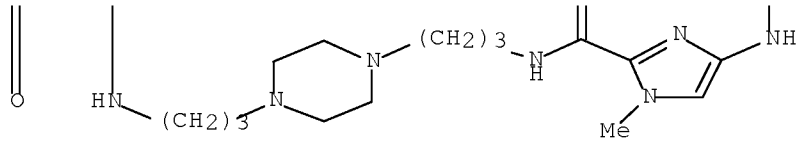

L4 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:221652 CAPLUS Full-text
DOCUMENT NUMBER: 138:255007
TITLE: Preparation of CBI analogues of CC 1065 and the duocarmycins for therapeutic use as anticancer agents
INVENTOR(S): Boger, Dale L.
PATENT ASSIGNEE(S): The Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022806	A2	20030320	WO 2002-US28749	20020909
WO 2003022806	A3	20031113		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2459308	A1	20030320	CA 2002-2459308	20020909
AU 2002333548	A1	20030324	AU 2002-333548	20020909
EP 1423110	A2	20040602	EP 2002-798201	20020909
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005502703	T	20050127	JP 2003-526882	20020909
US 20050014700	A1	20050120	US 2004-489006	20040827
PRIORITY APPLN. INFO.:			US 2001-318179P P	20010907
			WO 2002-US28749 W	20020909

OTHER SOURCE(S): MARPAT 138:255007
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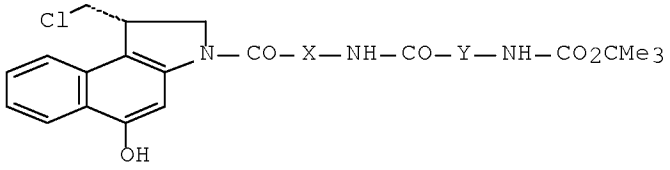


I

AB 132 CBI analogs I [X, Y = arylene, heteroarylene] of CC 1065 and the duocarmycins having dimeric monocyclic, bicyclic, and tricyclic heteroaroms. substituents were synthesized by a parallel route. The resultant analogs were evaluated with respect to their catalytic and cytotoxic activities. The relative contribution of the various dimeric monocyclic, bicyclic, and tricyclic heteroaroms. substituents within the DNA binding domain were characterized. Several of the resultant CBI analogs of CC 1065 and the duocarmycins were characterized as having enhanced catalytic and cytotoxic activities and were identified as having utility as anti-cancer agents. Thus, I (X = Y = -4-C6H4-) was prepd. starting from 4-H2NC6H4CO2H and the hydrochloride salt of seco-CBI.

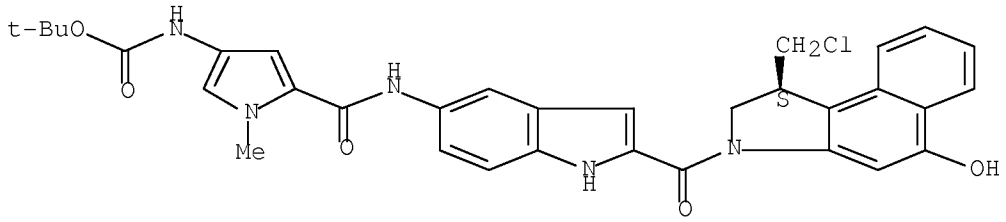
IT 372954-20-6P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(synthesis and evaluation of tetrahydrocyclopropa[c]benz[e]indol-4-one

analogs of CC-1065 and the duocarmycins defining the contribution of the DNA-binding domain)

RN 372954-20-6 CAPLUS

CN Carbamic acid, [5-[[[2-[[(1S)-1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:667407 CAPLUS Full-text

DOCUMENT NUMBER: 135:357786

TITLE: Parallel Synthesis and Evaluation of 132 (+)-1,2,9,9a-Tetrahydrocyclopropa[c]benz[e]indol-4-one (CBI) Analogues of CC-1065 and the Duocarmycins Defining the Contribution of the DNA-Binding Domain

AUTHOR(S): Boger, Dale L.; Schmitt, Harald W.; Fink, Brian E.; Hedrick, Michael P.

CORPORATE SOURCE: Department of Chemistry and The Skaggs Institute for Chemical Biology, The Scripps Research Institute, La Jolla, CA, 92037, USA

SOURCE: Journal of Organic Chemistry (2001), 66(20), 6654-6661
CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:357786

AB The soln.-phase, parallel synthesis and evaluation of a library of 132 (+)-1,2,9,9a-tetrahydrocyclopropa[c]benz[e]indol-4-one (CBI) analogs of CC-1065 and the duocarmycins contg. dimeric monocyclic, bicyclic, and tricyclic heteroarom. replacements for the DNA-binding domain are described. This systematic study revealed clear trends in the structural requirements for observation of potent cytotoxic activity and DNA alkylation efficiency, the range of which spans a magnitude of .gtoreq.10 000-fold. Combined with related studies, these results highlight that the role of the DNA-binding domain goes beyond simply providing DNA-binding selectivity and affinity (10-100-fold enhancement in properties), consistent with the proposal that it contributes significantly to catalysis of the DNA alkylation reaction accounting for as much as an addnl. 1000-fold enhancement in properties.

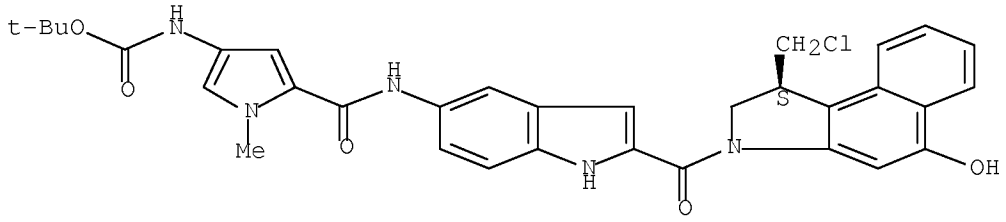
IT 372954-20-6P

RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and evaluation of tetrahydrocyclopropa[c]benz[e]indol-4-one analogs of CC-1065 and the duocarmycins defining the contribution of the DNA-binding domain)

RN 372954-20-6 CAPLUS

CN Carbamic acid, [5-[[[2-[[(1S)-1-(chloromethyl)-1,2-dihydro-5-hydroxy-3H-benz[e]indol-3-yl]carbonyl]-1H-indol-5-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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Executing the logoff script...

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	83.67	263.16

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-12.00	-12.00

SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 15:11:56 ON 30 JUN 2008